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Original Articles.

"HEREDITY."

A Paper read before the Dearborn County Medical Society.

By D. H. JAMES, M.D., Aurora, Ind.

As the great astronomical discoveries of Kepler antedated those still greater discoveries of Newton, so the discovery of the law of heredity antedated the discovery of the theory of evolution.

To the careful and critical student of the operations of nature He manifests two apparently antagonizing tendencies; one to uniformity, the other to diversity. The mind of the student becomes thus early impressed with the ideas of law and caprice as the two ruling powers in the economy of the universe.

The mission of science, from its commencement to the present time, has been to destroy this allusion and show that the great Cosmos is one and indivisible exhibition of law.

The important factor in evolution, "Heredity", has been, I think, wisely chosen for discussion. It intimately concerns itself with the science of medicine, in both diagnosis and treatment of disease, and can be investigated without considering the doctrine of evolution in its entirety—a subject too vast and comprehensive for an afternoon's debate.

What is the meaning of the term "heredity"?

As I understand it the law of heredity implies the bequeathment from parents to their offspring, in varying proportions, their own physical, intellectual and moral propensities and powers.

If I am correct in this definition it affords sometimes a joyful and sometimes a painful lookout for the sons and daughters of humanity. But, fortunately, or unfortunately, man is met on the very threshold of his existence, nay, even in his mother's womb, by a potency to subvert or advance his hereditary tendencies, and these modifying influences continue throughout the life of the individual. This ever pervading influence has received the generic name in modern scientific literature of "environment." Given the constitution of the individual, together with its environment, and it does not appear to be absurd that the future of such individual may be predicated in a more advanced state than the present of human knowledge.

Let us marshal some of the more obvious elements of this hydra in

review. Beginning with the physical: The air we breathe; the light we receive; the food we eat; the liquids we drink; the clothes we wear; the houses we occupy; the locations we inhabit on the earth; the sleep we take; the activity of our daily toil, whether for amusement or for the acquirement of the means of living.

Next, let us bring forward that portion of the intellectual generally termed education; scholastic learning, whether leaning to the classical or practical; and mathematical, including science and our general reading.

Now, the school-books are laid aside, our teachers are dismissed and we commence the battle of life, our real education, whether in the counting-room of the merchant, the workshop of the manufacturer, the college of the medical or legal profession, or the cloister of the theologian, and lastly, the most influential of all for good or evil, the company we keep.

Having, according to my ability, laid the foundation of this important subject, I ask permission to offer my humble services in bringing a few of the materials to assist in building up the superstructure.

The first case in conformation of the law of heritage is that of a young man having one of his toes on the left foot very little beyond the rudimentary condition, similar to his father's on the left foot. I have seen this case.

I now quote from various authors.

Dr. Maudesly says: "The more exact and scrupulous the researches made, the more distinctly is displayed the influence of hereditary taint in the production of insanity. It is, unfortunately, impossible to get exact or accurate information on this subject. So strong is the foolish feeling of disgrace attaching to the occurrence of insanity in a family that people, not apt usually to say what is not true, will disclaim or deny most earnestly the existence of any hereditary taint, when all the time the indications of it are most positive; yes, when its existence is well known, and they must know it is well known. Two important considerations in regard to this question should have full weight given to them: First. That the native infirmity or taint may be of very different degrees of intensity, so as, on the one hand, to conspire only with certain more or less powerful exciting causes; or, on the other hand, to give rise to insanity even amidst the most favored external circumstances. Secondly. That not insanity only in the parents, but any form of nervous diseases in them—epilepsy, hysteria, and even neuralgia—may predispose to insanity in the offspring, as conversely insanity in the parent may predispose to other kinds of nervous diseases in the offspring. Infinitely various as the constitutional idiosyncrasies of men notably are, it is easy to perceive how impossible it is that statistics should ever give exact information concerning the causation of insanity; here, as in so many instances of their application, their value is that they settle distinctly the existence of a

certain tendency, so to speak, which, once fixed, affords a good starting point for further and more rigorous researches; they indicate the direction of future investigation."

Dr. Elam, page 57 of his "A Physician's Problems," has the following on natural heritage: "The practical importance of this subject, in a popular point of view, consists in two facts: (1) That there is a debatable ground of mental condition, which is not insanity in the eye of the law or of the physician, but which cannot possibly be spoken of as perfect mental soundness; (2) That the various forms of slight and severe mental affections are naturally interchangeable and transformable by way of generation; thus hysteria or chorea, in one generation, may become imbecility, mania, or epilepsy in the next or third.

Insanity of any form in the parent may be represented in the offspring, either by a similar affection, by sensory disorders (as deaf dumbness, etc.), by epilepsy, by hysteria, or by the vague and undefined weaknesses or perversions of judgment, capacity, or will, which we call unsoundness of mind. The general law with these neuroses is that without special attention to the rules of hygiene they increase in gravity and intensity from generation to generation; and thus, young persons, who weakly encourage hysterical habits or the blind indulgence of impulses without the intervention of will or conscience, are laying the foundation for the most serious lesions of intellect or morals in after generations. For, not only are the special vices of organization and function inherited in an aggravated form, but it is sad, yet certain, that there are individuals, who, in their own person, inherit the sum of the perverted tendencies of many anterior generations."

Morel, a French writer, uses the following language: "A development, sufficiently remarkable, of certain faculties may give a different color to the future of these unfortunate heritors of evil; but their intellectual existence is circumscribed within certain limits which it cannot pass."

"The conditions of degeneration in which the heirs of certain faulty organic dispositions find themselves are revealed, not only by exterior typical characters easily to be recognized, such as a small ill-formed head, predominance of a morbid temperament, special deformities and anomalies, etc., but also by the strangest and most incomprehensible aberrations in the exercise of the intellectual faculties and of the moral sentiments."

Dr. Elam again (pages 58 and 59): "Our English law recognizes as insane those who do not know right from wrong; and, considering their moral liberty as extinguished, views them as irresponsible. It recognizes as sane those who do know right from wrong, and views them as responsible, as enjoying moral liberty—a very imperfect and faulty conception. Many of those who are called insane could tell in forcible language the difference between moral right and wrong; while many of those who mix daily in the affairs of men, and are considered sane, have no proper or

practical conception of such differences. Now, if moral liberty means anything beyond a formula without interpretation, it means the power of choosing and acting, according to the dictates of judgment, conscience, and will, in opposition to impulse and temptation. The impulse and the temptation being increased, and the faculties of judgment and will and the dictates of the conscience, being both relatively and absolutely diminished, it follows necessarily that, in proportion to these changes, moral liberty is invaded, its powers curtailed, and responsibility to some extent modified. These are precisely the variations which we observe occurring in obedience to the law of heritage in its comprehensive sense; as in physical heritage all the qualities or linaments of a parent are not equally inherited by the children, but divided among them; so in affections of the mind it is not always the same, an entire phase which is represented in the offspring; but this is analyzed and the elements distributed. In one we have an impulsive nature, in which, between the idea and the act, there is scarcely an interval; in another the proneness to yield to temptation of any kind—a feeble power of resistance, inherited either from the original or the acquired nature of the parent; in a third we have an imbecile judgment; in a fourth an enfeebled, vacillating will; in a fifth, or in all, a conscience, by nature or habit torpid, and all but dormant. All these are the normal representatives of an unsound parentage, and all are potentially the parents of an unsound progeny; in all is moral liberty weakened; in all is responsibility not an absolute, but a relative, idea."

Dr. O. W. Holmes says: "It is very singular that we recognize all the bodily defects that unfit a man for military service, and all the intellectual ones that limit his range of thought, but always talk at him as though all his moral powers were perfect. Some persons talk about the human will as if it stood on a high lookout, with plenty of light, and elbow-room reaching to the horizon. Doctors are constantly noticing how it is tied up and darkened by inferior organization, by disease, and all sorts of crowding interferences, until they get to look upon Hottentots and Indians—and a good many of their own race, too—as a kind of self-conscious blood-clocks, with very limited power of self-determination; and they find it hard to hold a child accountable for inherited bad temper, or tendency to drunkenness, as they would blame him for inheriting gout or asthma."

Mr. Whitehead, on "Hereditary Diseases," has this in his book: "The offspring of parents, both possessing great intellectual capacities, are liable to inherit such capacities in still greater proportion; but along with this refinement, so to speak, of the cerebral faculties, is usually conjoined a degree of physical delicacy, or of disproportionate development, which constantly endangers organic integrity; and the peril is further increased if education be urged, in early life, beyond a certain limit. The mind

which seemed capable of comprehending intuitively the most abstract problem, is soon shaken and unbalanced, merging at length into insanity."

I am tempted to quote again from Dr. Elam, trusting you will excuse my occupying so much of your attention. He says: "The man who inherits from his parents an impulsive or easily tempted nature and an inert will and judgment, and commits a crime under the influence of strong emotion, can no more be placed in the same category of responsibility with a man of more favorable constitution and temperament than can a man who steals a loaf under the pangs of starvation, with the merchant who commits a forgery to afford him the means of prolonging a guilty career. I do not hesitate to say that these constitutional defects may be, and daily are, so combined as to produce almost complete irresponsibility under a rational system of judgment, even in cases where the intellect, such as it is, remains coherent, and its possessor is acounted sane. Hence arises, in a great measure, that strange insoluble problem of our race—the existence of what are called the 'dangerous classes,' a people who seem set apart to fill our jails, our penitentiaries, our houses of correction, our penal settlements; a people at war with their kind—natural enemies of their brethren; a leaven leavening, and infecting, and drawing into the vortex of its own corruption even the comparatively sound elements of society; the pariahs of humanity, the despair of philanthropists, the opprobrium of legislation. It will not be by constantly repeated corrections that these classes will be reformed—'why should ye be stricken any more? ye will revolt more and more'—but by a patient repetition of the means by which man, as a race, has been civilized. Successive generations, undergoing the process of elevation from barbarism, have been born not only into an improved and more favorable medium or condition of society, but also into an inheritance of faculties or aptitudes, intellectual and moral, refined and strengthened by the cultivation of those of their parents; and so it must be, by successive attempts at the cultivation of the moral nature of these dangerous classes, that they, the barbarous elements of social life, must be redeemed from their present degraded condition, and enabled to transmit an improving and still improvable nature to their descendants."

I must hurry on and condense—not to tax your patience too much. The following are marked examples of the law of heredity: Lord Chatham, the father, William Pitt, the son; the two Foxes, father and son; the two Herschels, father and son, both eminent astronomers; the two Coleridges; the two Sheridans; the Kemble family. Flaxman was the son of a molder of plaster casts; Thorwaldson, the rival of Canova, was the son of a poor sculptor; Raphael's father was a painter; the mother of Vandyke was an artist; the father of Mozart was a violinist of some reputation; Beethoven was the son of a tenor singer; and so I

might go on for an hour with illustrations confirmatory of the law of heredity.

I cheerfully give my adhesion to this law, and I think I can do so without ignoring or lessening my estimation of that higher and more important one—that of diversity arising from environment.

QUININE SUBCUTANEOUSLY ADMINISTERED.

A Paper read before the Washtenaw County Medical Society, April 11, 1884,
By A. F. KINNE, A.M., M.D., Ypsilanti, Mich.

In the paper upon this topic to which the Society has already done me the honor of listening,(1) I advanced these five propositions and earnestly solicited the coöperation of the members in submitting them to the ordeal of a trial in practice:

First. That the hypodermic method is preferable to any other, in case the use of quinine is requisite, in the disorders of infancy and childhood.

Second. In all those cases where cinchonism must be produced promptly, the use of the needle is indispensable.

Third. The hypodermic method is almost equally valuable in case the temperature is high and the patient comatose.

Fourth. It is also preferable when the medicine is not tolerated by the stomach, and, especially, if it is rejected by the stomach and rectum both.

Fifth, and finally. We should not forget its greater economy; as one-half less is required than when administered by the mouth, and three-quarters less than when administered by the rectum.

Notwithstanding these great and very obvious advantages, however, the subcutaneous administration of quinine is not likely to become popular, unless some method can be pointed out by which the danger of producing a resultant abscess can be obviated, or, at least, greatly diminished. And this observation is especially true in the treatment of children and of the more adipose sex. For it must be familiar to every one, that, for a reason which it is the purpose of this paper to point out, the danger of producing a local trouble by the insertion of a hypodermic needle is far greater in these subjects than in others.

In the early part of our experience we got a scare,—which has appeared in the sequel, however, not to have had a very substantial foundation. Nussbaum reported five cases, two of them in his own person, in which, by accident, an injection of morphine was thrown directly into a vein, and described in blood-curdling language the terrific effects produced. The picture was doubtless too highly colored, for Eulenberg, of Milan, had made many thousand insertions of the needle without this accident, and I have seen no report of a similar experience since. But it made a profound impression at the time, and in our search

1 OBSTETRIC GAZETTE, March, 1882.

for a portion of the skin that could be punctured without the danger of penetrating a vein, the deltoid region was selected as being the best; and here we went on making our hypodermic injections, until our experience taught us to fear a vein less and an abscess more, and the deltoid region was abandoned as being a peculiarly unsafe one, having always in view the possibility of an abscess.

And an obvious inquiry is suggested by this bit of history. What is that peculiarity of the adipose tissue that renders it unsafe to make a hypodermic injection, unless it be a small one, in a child, in a female, or in the deltoid region in every case?

It is not the purpose of this paper to teach the ordinary principles of human histology, and, in addressing such a society as this, it cannot be necessary. The one feature which all these cases have in common is the density or closeness of the subcutaneous areolar tissue; or, in other words, the limited capacity of the areolar spaces. It is impossible to pass a needle through the skin without entering one of these areoles. And as they communicate with one another, it is quite possible, at least in theory, to inject an ordinary syringeful into this areolar network anywhere and in any case. And if the pressure of the thumb upon the top of the piston is very gentle and if the work is very slowly and very carefully done, a hypodermic injection can be made in any case without mechanical injury to the cellular tissues. But this is true only in theory. Another well known principle enters into the problem here, which can never be safely overlooked or disregarded. Of the fibrous tissues that enter into the composition of the subcutaneous network, the collagenous element, the white fibrous tissue, greatly predominates. And the characteristics of this tissue are, that while it is perfectly flexible, it is not particularly strong, it is non-elastic and it is almost totally inextensible. And when it is remembered that the tearing force of a hypodermic injection is equal at every point to the whole pressure of the thumb upon the top of the piston, it will be readily seen how easy it must be to do an injury to the areolar substance, of which a local redness and tenderness and possibly an abscess may be the inevitable consequence.

The lesson to be derived from this will be readily seen. There are portions of the dermal surface where the skin applies more loosely, and where the areolar spaces will be found to have relatively a greater capacity. These loose spaces are to be carefully sought after and filled according to their capacity; but no force is to be applied to the top of the piston; time is to be taken, and the fingers of the other hand must carefully study the top of the rising prominence to guard against a dangerous degree of tension.

The weakness of the best solution of the sulphate of quinine that can be made must always constitute a strong objection to its hypodermic use. Dr. Bartholow's solution is made as follows:

"℞. Quinine Sulph., grs. 50
Acidi Sulph. dil., m. 100
Aqua Font., ℥ i
Acidi Carbol. Sig. m. 5. Solv."

This is probably the best solution of the sulphate of quinine that can be made. But an ordinary syringeful of it contains only about three grains of the salt. It is too weak. In those desperate cases, where, in order to save life, we must have cinchonism within an hour's time, it will be necessary to refill the syringe from ten to fourteen times. And in an emergency we must not hesitate to do even this; but we can do better.

A very sanguine advocate of an acid solution of quinine, similar to this, reports having given "sixteen injections of thirty minims each (representing sixty grains of quinine), to one adult patient within twenty-four hours, with the very best results."

The writer reports further:

"I have used this solution hypodermically [sixteen years] with a large number of patients, varying from two to sixty years of age, and have never witnessed what could be considered *bad* results—the worst being a cold abscess containing a few minims of pus. I do not remember to have seen this trifling and painless abscess in more than two or three cases. Upon being opened, these abscesses healed without trouble."

And this is a very good report; but we must respectfully submit that it is not, on the whole, satisfactory. We can do better.

A fluid ounce of a solution of the bimuriate of quinia and urea represents 480 grains of quinia(1); a fluid ounce of the best solution of quinine that can be made contains not more than fifty or sixty grains. The former solution is at least as unirritating as a solution of morphine; and the objections that this new salt is not ordinarily kept in the shops, and that it contains urea, are practically of no consequence. The druggist will keep on hand such things as are called for; and the adverse action of the urea has not been perceptible, even in the cases where the patient was already comatose. Take, for example, the following extract from Cresap McCoy's paper, already referred to:

"Case XXIX.—Insolatic comatose. Temperature, 105°; four injections, grs. x. each, immediately; in one hour, temperature 104°; going down steadily after this; five hours after the injection, temperature 101°; in eighteen hours, normal; patient thoroughly cinchonized and rational three hours after administration; no other treatment adopted, excepting ice-bag to the head; no redness. Discharged cured."

There can be no abscess, as the consequence of a hypodermic injection, without the adverse concurrent action of these two causes. First, some little injury must have been done to the areolar tissue; and, second, there must in some way have been an introduction of atmospheric germs.

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1 New York *Medical Record*, August 7, 1880, p. 154.

Considerable inflammation will be the consequence of a simple fracture, of course, but it will be of the adhesive kind. If, on the other hand, the fracture is a compound one, air will get into the wound, and not the air itself, but the germs which it carries, will produce a suppurative inflammation. A similar comparison can be made between an ordinary surgical wound (without antiseptic precautions) and a subcutaneous one. The needle should be scrupulously clean, then, and the water with which the solution is made should not be pure and clean merely, but absolutely free from atmospheric germs. The distilled water upon the shelf of the apothecary is clean and chemically pure, of course; but if it has not been just freshly distilled it will be liable to have attracted atmospheric impurities, and be therefore unfit for use. The same is true of cistern water and of water from melted ice. Fresh drinking water will usually answer our purpose, and the addition of carbolic acid will always be very proper in case the solution is to be kept on hand.

In a paper recently read before the Indiana State Medical Society, Dr. Yeakle states that many pharmacists, in a case of emergency, would not hesitate to use rain water, water from melted ice, or distilled water that has been exposed to the deleterious influences of the atmosphere, in dispensing a solution for hypodermic and other uses, and he relates several instances in which the repeated occurrence of abscess after injections led to the microscopic examination of the solution, and the detection of micro-organisms in active motion.

It may seem that a solution of quinine, made by adding sulphuric acid, must necessarily be aseptic, from the antiseptic action of the acid. But the redness and tumefaction that so frequently follow the insertion of the needle, and the necessity for adding carbolic acid to avoid an abscess, prove that this acid solution of quinine sulphate is not unirritating, and not destructive of atmospheric germs. A solution of the bimuriate of quinia with urea, on the other hand, does not change with keeping, and never produces an abscess in any case.

In the discussion that followed the reading of my first paper, a learned brother, not with us to-day, objected to the use of Drygin's salt (the bimuriatica carbo midata) that it contains urea, and can not be used without danger of producing uræmic poisoning. But this objection, though an ingenious and plausible one, will not bear inspection; for, as already stated, the addition of the urea, while it renders the quinia salt more soluble and less irritatng, does not appear to alter its therapeutic qualities in any way. And, moreover, our experience in the use of this double salt has demonstrated another point of very great interest and importance, viz: that uræmic poisoning is not due to the chemical, urea, and must be attributed, therefore, to cadaveric salts of the body, the ptomaines, which are converted into urea to render them harmless and bring about their elimination.

In conclusion, then, of this desultory paper, we say this:

1. A hypodermic injection of the bimuriate of quinia and urea is milder and safer than an ordinary injection of the sulphate of morphia, and even less care is requisite in its administration.

2. But if, for any reason, this salt can not be readily obtained or is not at hand, let us have an acid solution of the sulphate as above described, or similar to it, and let the pharmacist be absolutely sure that the water used in making the solution is free from atmospheric germs.

3. But by far the most important part of the operation is the selection of such areolar spaces as will contain the injection required, without laceration and without tension even. And these will be found not within the parenchyma of the cellular tissue, but through it and beneath it, between the cellular tissue and the parts subjacent. I used to say, let us make our injections small, and multiply them. But obviously, if we select ampler areolar spaces, the necessity for this will, in a great measure, be obviated.

I am indebted for this suggestion to Dr. Dr. N. S. Guice, of Fayette, Mississippi. (Transactions of Mississippi State Medical Association, 1883.) His language is as follows:

"I select a region where the inner surface of the subcutaneous areolar tissue is loosely adherent to the subjacent tissues, usually the dorsal surface of the forearm or the front and lateral regions of the thorax or abdomen. With the thumb and index-finger of the left hand I elevate the skin and entire thickness of the areolar tissue. I then pass the needle of the syringe entirely through these structures, at a right angle to the direction of the fold, carrying the point beneath the inner surface of the areolar tissue, and depositing the solution in the loose, elastic tissue connecting the areolar with the subjacent tissues."

Ypsilanti, Mich., April, 1884.

Society Reports.

PROCEEDINGS OF THE MEDICAL SOCIETY, DISTRICT OF COLUMBIA.

Stated Meeting, Held April 9th, 1884.

The Society met with the Vice-President, Dr. W. H. Taylor, in the Chair, Dr. McArdle, Sectretary.

Specimens from a Case of Puerperal Peritonitis.

Dr. D. S. Lamb presented a heart and uterus obtained at a recent autopsy of a case of puerperal peritonitis. A colored woman, age 25 died at the end of the fifth week after parturition. She had had rheumatic pains in the legs, more especially the calves; and pain in the abdomen. On the day of her death she had two convulsions, in the second of which she died. No further history obtainable.

At the autopsy the following appearances were noticed:

Head.—There was a white clot in the right lateral sinus of skull; dura mater normal; pia mater congested and with patches of ecchymosis; subarachnoidal fluid on right side turbid, dark and contained some lymph. Brain generally firm but softened in the situation of the island of Reil and adjoining fronto-parietal convolutions of right side, the softening extending to corpus striatum and opening the descending cornu. No thrombosis or embolism of arteries *discovered.*

Chest.—Heart enlarged; the two pericardial surfaces extensively united together so that the sac was nearly obliterated; valves normal; white clots in cavities. Some congestion and edema of lungs; muco-purulent fluid in right bronchi.

Abdomen contained a large quantity of straw-colored serum. The opposing surfaces of uterus and rectum showed white patches of lymph, but no adhesions. Liver, spleen and kidneys in that soft, yielding condition characteristic of high temperature and blood poisoning. Kidneys weighed ten and eleven ounces respectively; a small abscess in cortical substance of left.

Uterus in state of subinvolution, length nearly five inches, mucous surfaces still raw-looking over greater extent of surface, broad ligaments much thickened, and a pocket of pus in the left; ovaries and fimbriæ congested: Vagina livid and discharging fetid liquid. A few ecchymoses of the bladder.

The interpretation of the specimens together with the history seems to be as follows:

In the order of time, parturition, puerperal septicæmia; pelvic cellulitis, and peritonitis with higher temperature, manifested especially in the abdominal solid viscera; and septic embolism of brain and of left kidney. The adhesive pericarditis was undoubtedly older than could be explained by this acute attack.

Puerperal Septicæmia Treated by Cold Coil.

Dr. Parke G. Young read the following:—

I was called to Mrs. W., primipara, aged 28, at 11 A. M., on the 22nd of February. She was delivered at 3 P. M. with a loss of three pints of blood in first ten minutes. The placenta was immediately delivered — ergot given and compression of uterus used until the morning of the 24th, when I found her temperature at 103° and pulse 120. She was ordered 20 grains of quinine and plenty of milk and beef tea. On the 25th I discovered a slight odor from of lochia and ordered carbolized injections every 4 hours. There was on examination laceration of the perineum, but none of the cervix. Her temperature varied from 103° to 103½° during the day. From the 26th of February, to the 3rd day of March I continued the quinine, regulating the bowels and giving from two to three quarts of milk a day, with some solid food. During

the whole time there was no offensive discharge; no sweating; no abdominal tenderness or tympanites. She expressed herself as being perfectly well and slept well, and yet her temperature remained at 103° and 104°. On the morning of the 3rd I found her flighty; had slept badly; her temperature had risen to 104½° and pulse 130. She was ordered iced cloths to the head and abdomen and an ounce of Warburg's tincture. Called in two hours and found pulse 110 and temperature 101½°. She complained greatly of the cold applications and they were discontinued. Saw her again in 4 hours and found temperature 103½° ordered her a half ounce of Warburg's tincture and cold application renewed. In an hour the temperature was 102°. I visited her at 9 A. M. on the 4th; the nurse reported her as having a very bad night; the fever had risen and she would not allow the cold applications. I found her laughing and grinning with well developed mania; passing urine involuntarily; pulse 140 and temperature 104½°. She was given 30 grains of bromide every six hours with the treatment of the previous day. At 12 M. called and found temperature 103½°; delirium slightly better; she rebelled against the cold applications; said the bladders were too heavy and the cloths wet her. At 9 A. M. on the 5th her temperature was 104°; general condition the same; ordered chloral and bromide of potash with an ounce of Warburg's tincture. Saw her again at 4 P. M. (temp. 103½°;) with Dr. Johnson, when she was ordered a suppository of 30 grains of quinine and cold applied by a coil of rubber tubing over the abdomen. The temperature fell one degree in a half hour use of rubber tubing by myself. On the 6th and 7th all the symptoms repeated themselves and we couldn't persuade the family to carry out instructions about the use of the coil; but at 4 P. M. on the latter date, after a serious talk with the husband, the coil was applied, when her temperature was 105° and pulse 140. At 10 P. M. we found the temperature 102½°. The husband was delighted at the change and promised faithfully to carry out instructions. We ordered instead of the bromide and chloral 30 drops of McMunn's elixir, repeated in four hours if she slept none—the coil used whenever the temperature was above 101°. At 10 A. M. on the 8th her temperature was 100°; mental symptoms no better. The quinine was continued with the bromide. Dr. Johnson saw her again with me at 4 P.M; her temperature had risen to 102½°. The coil reduced it in an hour to 100° and was discontinued. At 10 A. M. on the 9th we found her temperature 100°; pulse very weak, and the nurse reported a fall of temperature at six in the morning to 96°. She was ordered ℥ ss of whiskey every four hours. From this date to 16th she was under my charge, the mania developing every day when she was transferred to Mount Hope.

D.. Parke S. Young also reprted the following case of

PUERPERAL SEPTICÆMIA AND PERITONITIS.

I was called to see Mrs. R,, aged 32, multipara, on the 11th of March.

She had been delivered of twins in a labor of an hour on the 9th, and when seen her temperature was 104° and pulse 140. There was great abdominal tenderness and tympanites, with a severe cough. The lochia were abundant, and on examination the uterus proved to be badly contracted, with a severely lacerated and patulous os. She was ordered an opiate and turpentine mixture, with 5 grains of quinine and 14 drops of ergot every 4 hours. At 5 P.M., 8 hours afterward, her temperature was 103°, pulse 118. At 11 A.M., on the 12th, her temperature was again 104° and pulse 130, the cough and tympanites relieved, but complaining of abdominal tenderness and pain and frequent chilliness. She was ordered 20 grains of quinine, in two doses, at 3 hours interval. At 4 P.M. the temperature was 103½°, pulse 130. The 13th saw a repetition of the 11th. At 11 A.M. on the 14th her temperature was 104°, pulse 130, and lochia very offensive for the first time. The uterus was immediately washed out with carbolized water, and vaginal injections ordered, with cold cloths over the abdomen in addition to the previous treatment. Called again at 4 P.M., and found temperature 103½°, pulse 120, and odor from the lochia relieved. At 11 A.M. on the 14th, the temperature was 104¼°, pulse 134. Ordered her instead of the quinine a half ounce of Warburg's tincture, to be repeated in 3 hours. Saw her at 4 P.M., and found the temperature 102¾°, pulse 124. At 11 A.M., on the 16th the temperature was 104 ½°, pulse 138 to 148. I found her lying on her back with her knees well drawn up, complaining that her abdomen was so tender that she couldn't bear the bedclothes on it, and so dreaded the terrible pains moving brought on that she had not stirred during the night, and even feared any one approaching the bed. She had had no rest, was very nervous, and suffered extremely from the examination, which revealed a yet dilated os, but no discharge. The Warburg tincture was repeated, with an increased amount of opium and turpentine. At 4:30 P.M. the temperature was 102¾°, pulse 120. At 9 P.M. the temperature was 104°, pulse 140. At 10 A.M., 17th, temperature had risen to 105°, pulse 148 to 138. The patient was delirious, and refusing for the first time the milk or other nourishment, and the other symptoms were unbated. The treatment was repeated, and they were directed how to make and use the coil. Called again at 3 P.M., and found the temperature 104¼°. They had failed to get the tubing. I waited and applied it, with directions to continue until my return. Visited her at 7 P.M., 4 hours afterward, and found the temperature 100⅘° and pulse 110. The patient expressed herself as well, and found the coil pleasant until the last hour, when, finding it too cold, she had it removed. The tenderness and tympanites were decidedly better, enabling her to change her position in bed without pain, for the first time in the past week. After leaving directions for its reapplication if the temperature should rise to 102°, I saw her at 11 A.M., and found the temperature 101½°. From this

time the symptoms steadily abated, and she was able to sit up in three days.

In concluding, I wish to remark that although I do not, of course, claim that the coil will abort an attack of puerperal peritonitis or septicæmia, as it apparently did in these cases, I am convinced that it will prove the most powerful weapon we have for lessening the duration and danger of diseases where high temperature is an important factor of fatality, and also to call attention to the fall in temperature of three degrees on the eighth day of the first case, after the first use of the iced cloths and the exhibition of the Warburg tincture as being the best result obtained, except from the coil. For suggesting the use of the latter I wish to tender my thanks to Dr. Taber Johnson and Parke Young.

DISCUSSION.

Dr. Taber Johnson said he was sorry he had not heard the paper read by Dr. Parke Young at the last meeting. He had some knowledge of one of the cases reported, and would like to bear testimony to the efficacy of the treatment adopted. He had been particularly struck by the surprising quickness with which the temperature was reduced by the use of the cold water coil. Thomas says that sometimes eight, ten, and even twenty-four hours elapse before the temperature is reduced, and he adds that it produces beneficial results only by continued use. In the case under discussion, however, the reduction of temperature was prompt and lasting. The other means of using cold are so unpleasant and disagreeable that the cold water which does not possess these defects becomes a valuable remedy. It is said also not to be so liable to cause pneumonia, bronchitis, sore throat, etc.

The occurrence of puerperal fever is such a large item that any method of controlling it will be hailed with pleasure.

Dr. W. G. Palmer saw no other special virtue in the coil than its lightness. Cold was the curative agent, but the coil might be the most convenient method of applying it.

Dr. Kleinschmidt was in doubt as to what agent might claim the credit. Dr. Young had used veratrum viride, Warburg's tincture and large doses of quinine in addition to the coil.

Dr. Young said that the prompt and persistent reduction of temperature after using the coil had led him to give that agent the credit. In reply to Dr. Hagner he said the highest temperature was 105° and that antiseptic vaginal injections had been used.

Dr. Taber Johnson said that in the case seen by him all the symptoms led to the belief that a spot between the perineum and the neck of the uterus had absorbed the offending material. There was at no time the slightest pain in the abdominal viscera, The lacerated perineum exhibited plenty of absorbent space. We had prepared everything necessary for washing out the uterus, but the temperature was so materially lessened

by the use of the coil and did not again ascend, that it was deemed useless. The temperature, in fact, descended below normal, and stimulants were given. Puerperal mania gradually developed, and the patient is now in an asylum.—*Maryland Med. Jour.*

OBSTETRICAL SOCIETY OF LONDON.

Meeting of Wednesday, March 5, 1884.

H. Gervis, M.D., President, in the Chair.

Specimens.

Dr. Horrocks showed a wooden ring-pessary coated with a deposit of lead from the use of lead lotions. It had been worn for five years.

Mr. Thornton showed a fibro-cystic myoma of the uterus, with both ovaries attached, removed from a single woman aged 40. The patient recovered. Also a large fibroid uterus, with separated subperitoneal fibroids, small multiple cysts of the left ovary, and a large multilocular tumor of the right ovary, with broad ligament cyst attached. The patient, aged 40, single, died of peritonitis on the fourth day.

Dr. Galabin showed, for Mr. Fielden, of the Chichester Infirmary, a cyst removed from the vulva, believed to be a hydrocele of a peritoneal pouch.

Dr. Heywood Smith showed a dermoid cyst of the right ovary, containing skin, teeth, hair and bone; also a large fibroid removed, together with the upper third of the uterus, from a woman aged 39.

Dr. Boxall showed a morbidly adherent placenta from a syphilitic patient, detached with great difficulty by the fingers. There were several accessory cotyledons joined to the main placenta by a membranous or velamentous interspace of chorion; also a placenta containing a large blood cyst, nearly as large as an orange, the greater part of the fœtal surface being also occupied by old blood-clot.

Dr. Barnes showed an ovarian tumor removed at short notice on account of symptoms of twisted pedicle, viz.: sudden access of severe pain, vomiting, and depression of pulse, together with rapid increase in the size of the tumor. The case showed that ovarian tumors should be removed as soon as diagnosed, in order to avoid the numerous accidents to which their owners are liable.

Corroding Ulcer of the Os Uteri.

Dr. John Williams read a paper on this subject. He referred to the rarity of the disease, to the almost entire absence of descriptions of it in systematic treatises, and to the fact that its existence had been denied by some observers. It has been mistaken for cancer, and *vice versa*. The histories of these cases, which had been under the author's observation for varying periods of time — one for two years, and two for about ten years — were narrated, and the post mortem appearances, together with

the microscopical characters of the ulcer in one instance, were described. The differences between corroding ulcer—both clinical and anatomical—were pointed out, and the views of Sir Charles Clark, that the disease was distinct from cancer, upheld. The disease began at the os uteri, and extended along the vagina, involving its walls in a symmetrical manner. Its progress was slow, and two of the author's patients died of other diseases, while the third, which had been under observation for ten years, was still living. It was not necessarily associated with loss of flesh, and the pain and discharges were different from those usually met with in cancer of the uterus, and the edges of the ulcer were not hardened and thickened. The mode of progress of the ulcer was in one case by means of reddish, raised tubercles, which became ulcerated, in another by slow ulceration without any preceding changes in the tissue about to be invaded, except some redness. The mucous surface to the edge of the ulcer appeared perfectly healthy. Microscopic examination showed this last observation to have been accurate, for the ulcer, its base and borders, presented no appearance except that of granulation tissue. The case in which the disease presented the appearance of lupus is still living. In the second case, which died, and which presented the microscopic appearances mentioned, the ulcer appeared to be the result of a slow gangrene, arising from calcification of the internal iliac arteries and their branches.

The President regretted that no necropsy had been allowed in the second case, but from the results of the necropsy in the third case, the symptoms observed by the writer through a series of years in each case, and the observations of other authors referred to by Dr. Williams, he thought that the disease must now be definitely withdrawn from the list of cancerous or cancroid affections. Dr. Williams' graphic description might have the effect of bringing cases hitherto classed under the head of ulcerating epithelioma under that of corroding ulcer.

Dr. Priestly said that the rarity of the affection was proved by the fact that some gynecologists in large practice were doubtful if they had ever seen a case, and that its pathology was much disputed. Thus, Kiwisch and Scanzoni regarded it as a variety of encephaloid cancer; Courty and West regarded it as a form of epithelioma. He thought he had seen the characteristic form of the disease more than once. Sir Charles Clark described the pain as burning, and not gnawing, like that in cancer.

Dr. Matthew Duncan said the disease had been the subject of special study for many years to him, and he believed it to be of the nature of lupus. He was not sure that he had ever seen a case identical with those of Dr. Williams as to situation, but he had seen many in the lower vagina and external organs. Lupus of the external organs seemed to produce hypertrophies greater than any produced higher up in the passages. He had also seen the disease in the uterus.

Mr. William Duncan thought Dr. Williams' cases were lupus which had taken an an epitheliomatous nature.

Dr. Chalmers thought that the disease was not so rare as it had been thought. He had seen two such cases within the last two years. In one case the patient died within a period specified in the prognosis given.

Dr. Galabin asked Dr. Williams whether he regarded the disease as having any analogy with rodent ulcer of the skin, which was now regarded as a form of rodent cancer. He had examined the ulcers in Dr. Duncan's case, and had found the deposits thickening the walls to consist of leucocytes, some of them having the suspicious character of being united by tailed processes.

Dr. Griffith had seen a case which he thought similar. There was little pain, no glandular enlargement; it proved fatal in two or three years by repeated and uncontrollable hemorrhage. No necropsy was allowed, but the left side of the uterus was felt much thickened.

Dr. Routh had seen two cases of the disease. There was no induration of the surrounding parts nor fixation of the cervix. The absence of induration made him dissent from the view that it was lupus. Moreover, the ulcer never healed, as it does sometimes for a time in lupus. He suspected a scrofulous or syphilitic taint acting on illfed and weakly persons. Similar ulcers had been described by Samuel Cooper.

Dr. Aveling said that Dr. Rigby believed that the burning pain accompanying this form of ulceration was different from the darting pain of cancer.

Dr. Williams replied that rodent ulcer was epithelioma starting from hair follicles and sweat glands, and corroding ulcer of the cervix could not be such. In one of his cases it appeared to be lupus. This patient was still living, therefore no microscopic examination had been made. The third case was, in his opinion, senile gangrene, depending on calcification of the internal iliac arteries and their branches on both sides. He had used the word "malignant" loosely, as equivalent to incurable. He had seen one case of ulceration of the inner surface of the body of the uterus. The patient was over 60 years of age, had suffered long with offensive discharge, and was very fat. She died from other causes. At the necropsy the uterus was large, the walls thickened, the cavity large, and filled with a broken-down dark material. Section of the walls showed nothing except the muscular fibers of the uterus running to the surface, and in many of them round cells, but nothing to indicate malignancy. No local treatment had been pursued.

Supernumerary Mammæ.—Dr Fontan relates the case of a woman with four breasts, two of which are normally situated. The other two are somewhat smaller, and are situated two centimètres below the upper ones. The woman has suckled with all four breasts, all of which contained an abundant supply of milk.—*London Medical Record.*

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 1, 1884.

The Vice-President, H. T. Hanks, M.D., in the Chair.

Studies in Internal Endometritis.

Dr. Mary Putnam-Jacobi read an elaborate paper on the above subject, in which she spoke first of the anatomy, and directed special attention to the views of Leopold, which gave the inference that the endometrium was regarded only as an immense lymph sac, an inference singularly wide of the mark, as it merely took into account one of the properties which it possessed in common with other organs. The author submitted twelve propositions, of which the following are some of the important points:

1. The essential part of the utero-ovarian system is the endometrium, which may appropriately be called a germinative membrane, because it is the seat of the process of germination of embryonic elements.

2. The utero-ovarian system may be said to have no function.

3. The reproducing tissues generally assume new properties or functions at certain epochs, and continue their manifestations with the single property of growth until the menopause. So with the ovaries; before menstruation is established, the process of growth is continuous; subsequently the process sustains a series of interruptions, by means of which is deflected into cyclical movements the changes and processes that occur during their period of activity. There are two cycles: the lesser, menstruation; the greater, pregnancy.

4. The homology between these two cycles is complete.

5. The characteristic disease of the greater cycle is subinvolution of the uterus and its annexæ, namely, the ovaries and the venous plexuses contained in the broad ligaments. The characteristic disease of the lesser cycle is subinvolution of the endometrium after menstruation.

6. In both cycles the physiological process of growth is initiated in the endometrium. Menstruation is initiated in the same tissue, and the cause of failure in this regard is to be sought there. Chronic metritis in the multiparæ or nulliparæ originates in endometritis, which implies subinvolution of the endometrium.

7. Parenchymatous disease of the uterus depends upon disease of the lining membrane, or the membrane covering its surface.

8. Nearly all other utero-ovarian diseases may be similarly traced to disease of this germinal membrane. Diseases of the ovaries are due, in a large proportion, to original trouble in the endometrium. Even neoplasms begin in a deviation in the process of growth, taking place first in the endometrium. Disease of the uterine cervix may be primary.

9. Thus, with the exception just named, utero-ovarian affections should be regarded as unique, the real disease being subinvolution of the germinative membrane, with its consequent complications.

10. Utero-ovarian disease is a deviation of the process of growth habitually sustained in the utero-ovarian tissues. The most common is called inflammation, and toward the close of the active period of menstrual life, the deviation may be exaggerated, and terminate in the development of neoplasms.

11. The ultimate object of all treatment of utero-ovarian disease must be restoration of the integrity of the normal processes occurring in the endometrium, which may be affected either directly or indirectly, the object remaining essentially the same in either instance.

12. Both for the success and safety of local treatment of endometritis, it is essential to take into account the rhythmic change of which it is the seat.

The author of the paper then elaborated each of these propositions. That the endometrium is the essential part of the utero-ovarian system can not be disproved from a physiological point of view. Facts have established a continuous inter-menstrual growth of the endometrium. The development of the uterine parenchyma belongs to pregnancy only.

A New Hypothesis Concerning Menstruation.

The peri-uterine and ovarian plexuses constitute a reservoir of blood to meet the demands of pregnancy. This reservoir is reproductive.

Hypothesis:—That the accumulation of blood in the plexus is effected by the gradual growth of the veins of which it is composed, and as their lumen enlarges, more blood is aspirated into them, and the appearance of engorgement is developed, which really depends upon actual new growth of the vessels, which marches *pari passu* with the development of the Graafian follicles and the endometrium.

In menstruation, the endometrium grows until a certain point is reached, when growth is arrested by *pressure*, and the vitality of the surface is destroyed and exfoliation takes place. The amount of pressure is according to the measure of growth against the uterine tissues, and the metamorphosis affecting the epithelial layer gives rise to rupture of capillaries and pouring forth of blood upon its surface.

The so-called uterine glands *have no function*, and are analogous to the depressions in the brain called convolutions. The uterine tissue also has no function. There is no case of subinvolution which does not exhibit at the beginning some form of endometritis, either congestive, catarrhal, or fungous, from formation of granulation tissue. Parenchymatous inflammation further favors growth of the endometrium.

The characteristic symptoms of endometritis are all due to malnutrition of the peripheral extremities of the utero-ovarian nerves from excess of blood.

There is a marked similarity between the symptoms of endometritis and pregnancy, and nausea indicates that the disease, which perhaps began in the cervix, has extended beyond the internal os. The links

in the semeiological chain are in regular order, endometritis, disturbances of the spinal cord, disturbances of the medulla, and in aggregation a dash upon the occipital portion of the brain, giving rise during origin, progress and destruction, to the multitudinous nervous phenomena developed during the existence of the disease.

There are symptoms which are always present in endometritis: the passage of a fine probe through the internal os causes exquisite pain; there is hyperæsthesia, attended by hyperæmia, the fundus of the uterus is sensitive under abdominal palpation, and the patient suffers from dysmenorrhœa.

Pain occurring during the menstrual flow is *never ovarian*, but due to endometritis, malnutrition, etc.

The pain of ovarian disease is relieved by the flow, and where it exists it will be found that endometritis co-exists.

The Terminations of Endometritis

are peri-uterine inflammation, flexions and versions, and finally, cervical catarrh.

The author of the paper commented on these, and then gave an ingenious

Explanation of Uterine Displacements,

based upon the relations of the uterine ligaments to the endometrium. Anterior flexion depends upon irritation of the uterine portion reflected through the round ligaments; if fundal irritation is reflected through the utero-sacral ligaments, anteversion takes place.

With retroflexion and version there is no irritative mechanism, but it is rather paretic, because the ligaments are too short, unless there is relaxation of the round and the utero-sacral ligaments. The displacements are only incidental, and radical cure by means of pessaries will be the exception and not the rule.

The ultimate object of *treatment* is destruction of the subinvoluted portion of the endomentrium, and the remedies used should contribute to stimulate healthy processes.

The effect of applications should extend from the endometrium to the uterine parenchyma and peri-uterine tissue, and, if possible, to the ovaries.

The principles of treatment are included in the following propositions:

1. Whatever will raise arterial tension tends to establish conditions favorable to involution of the endometrium.

2. By means of local treatment, endocervicitis and a disposition to venous hyperæmia may be so overcome as to diminish the venous hyperæmia of the internal endometrium, and menstruation may be established and effect a cure.

3. By direct local applications to the internal endometrium the effects to be expected are: (*a*) destruction, to a greater or less extent, of tissue;

(*b*) reflex excitation of contractions in the uterine wall, as well as of the muscular fibres of the broad and other ligaments: (*c*) in consequence of these effects, temporary acceleration of blood through all the utero-ovarian tissue.

4. By destruction of excess of tissue of the endometrium and blood-vessels, opportunity is afforded to modify the growth of the menstrual cycle, and thus to raise the local arterial tension and increase the menstrual flow.

The author of the paper then pointed out the dangers attending attempts to apply these principles, and followed with rules concerning local applications.

1. The time for local applications should be limited to the post menstrual week, they should not be begun within the ten days immediately before menstruation.

2. The effect of one local application should completely subside before another is made.

3. In cases involving much parenchymatous metritis, the applications should be preceded by the use of tents.

The dangers attending the use of tents were then pointed out.

The fundamental principle in the treatment of endometritis is cauterization, the object being to destroy the subinvoluted tissue, so that new growth will proceed in a more healthy manner.

The relative amount of irritation produced by different caustic remedies was then discussed, followed by reference to complications liable to arise from their injudicious use.

DISCUSSION.

Dr. B. F. Dawson was asked to open the discussion, and said that as he came to listen and not to speak, he would only refer to one clinical point, and, besides, the paper was so extended and exhaustive that an attempt to discuss it in detail could not be entertained at that late hour.

With reference to pain, the author of the paper had stated that in ovarian dysmenorrhœa it *preceded* the flow, and was relieved when the flow was established. Physiologically and pathologically this might seem to be correct, but he had seen—perhaps he might stand alone in the opinion—cases in which he was unable to diagnosticate anything else except ovarian dysmenorrhœa, and yet the pain persisted throughout menstruation.

Dr. Paul F. Mundé said he was glad to hear one of the propositions laid down by the author of the paper, namely that endometritis originates in two conditions, which he thought had heretofore been insufficiently pointed out. First, endometritis originating in *menstrual* subinvolution; and second, endometritis originating in *puerperal* subinvolution.

He was confident that a large proportion of cases originated in one or both of these causes, because in these cases the uterine canal is patulous,

the os gaping so as to admit a large sized sound up to the fundus without difficulty, and often without pain, and with no other particular symptom except a slight flow of blood, which is, in so patulous a uterine canal, one of the symptoms of chronic endometritis. The importance of carefully appreciating this fact he regarded as evident, because it will lead to earlier treatment of the case than is the general rule, and consequently to a quicker cure of the patients than must otherwise be affected. The longer the catarrh lasts, the more difficult it is to cure, or even to effect temporary improvement.

Another point is the dependence of peri-uterine cellulitis and peritonitis upon uterine catarrh. He had no doubt that in a large proportion of cases pelvic cellulitis depends upon irritation extending directly from the endomentrium to the neighboring organs. Therefore, if we wish to cure a case of recurrent pelvic cellulitis, or peritonitis, we must remove the inflammation from the surrounding tissues, and also the condition which originated it, namely, the chronic endometritis. But it is not always safe to treat this cause of parametritis, and it is often better to let the endometritis alone than to run the risk of co-exciting its consequence, the peri-uterine inflammation.

The author of the paper had noticed that pelvic peritonitis originates more frequently from the fundus, or is transmitted from the Fallopian tubes, than from irritation brought to bear upon the cervix. Dr. Mundé thought he had seen more cellulitis and peritonitis produced by irritation of the cervical mucous membrane below the internal os than from irritation of the endometrium above it. He believed that the connection between the lymphatics of the cervix and the parametrium is much closer than from the uterine cavity proper to the parametrium.

The same would hold with regard to ovaritis. When there is the slightest sign of enlargement or tenderness of either ovary, he always hesitated to treat the endometritis by local applications, and always followed the plan of reducing the inflammation of the ovary first, before attempting to treat the endometritis, whether corporeal or cervical. There was one symptom of endometritis which had not been mentioned, and which he had encountered rather frequently. He had already stated that the uterine canal would be found gaping, but besides that there is *erosion* of the external os. This he had seen in virgins, in women who had not borne children, and also in parous women, and is due to the excessive discharge of mucous secretion from the endometrium, and is, therefore, a sign of chronic endometritis.

With regard to fundal tenderness, he thought it was equally a sign of areolar hyperplasia, or of any enlargement of the uterus, as of chronic endometritis.

The statements concerning the etiology of flexions was a very plausible one, and one to which he could heartily subscribe. He was quite sure

he had seen cases in which there was decursus of the uterus, where the cervix rested upon the floor of the pelvis, and where there was nothing pathological in either the ovaries or the ligaments to account for it, but where there had been chronic endometritis extending over a period of seven years, and to that the downward displacement of the uterus was undoubtedly due.

The theory of transmission of irritation through the round and other ligaments, causing them to contract and produce a respective displacement, was very ingenious, and seemed quite plausible.

With regard to treatment, which really interested the general practitioner most, it was well to prevent the disease, but when it was present, the primary object was to cure it, and yet this is not easily done. In the majority of cases, treatment is only temporarily beneficial. So far as general treatment is concerned, measures should be taken which increase pelvic circulation, and tend to remove the hyperæmia of the pelvic organs.

But as regards local treatment, he wished it to be distinctly understood that corporeal endometritis should be treated from the fundus downward. Cure the fundus before expecting to cure the cervix, simply because the corporeal discharge will keep up the local infection of the cervix until it is arrested.

He believed that the stronger the remedies used the better; the best remedy is the severest remedy, taking into consideration all precautions in its use. In all chronic cases of hyperplasia of the mucous membrane, the *dull* curette is a remedy not at all to be despised. It is a safer remedy, is quite as easily applied, and certainly is as efficient in the beginning as the stronger caustics, like nitric acid. His usual plan, when the catarrh is very chronic, and the endometrium is hypertrophic, is to remove a portion of the thickened mucous membrane with the curette, and then to apply a caustic, and if it was a bad case, he did not hesitate to apply strong nitric acid. If not so bad, he used iodized phenol, or compound tincture of iodine or iodoform, etc.

As a rule, he had not found it necessary to first dilate the uterine canal, and did not regard it as safe to attempt to do so when there was evidence of para-uterine inflammation.

The length of time treatment will be required will depend upon how long the disease has existed. Certainly it will need to extend over a number of months. With regard to frequency of applications, he did not apply nitric acid oftener than once in two weeks, perhaps not oftener than once a month. The best time for making the local applications is shortly after the cessation of a menstrual period.

The possible occurrence of pregnancy while the patient is under treatment (as illustrated by a case recently seen by him of pregnancy after three applications, the patient having been sterile during her four years

of married life), encourages the use of local measures, as pregnancy is, perhaps, the best means of curing the endometritis, provided care is taken to examine the patient before her getting up after delivery, and, if necessary, applying local astringents or caustics at this, the most favorable time for a cure, if such measures seem indicated.

Dr. W. Gill Wylie complimented the author of the paper, and then directed attention to a few points which had not been mentioned. The relation which salpingitis, or any disease of the Fallopian tubes, sustained to endometritis he regarded as important. Many cases were incurable on account of the associated disease of the Fallopian tubes. Many diseases which were innocent while restricted to the uterine cavity, might become incurable when they reached the tubes.

Besides this, and it was very frequently overlooked, peri-uterine inflammation occurred much more commonly than was usually supposed.

Again, the influence of certain well-known poisons had not been mentioned. He was satisfied that specific disease was by no means an uncommon cause of endometritis, which was intractable and in many cases the cause of a salpingitis which could not be cured, except by removal of the tube.

With reference to treatment, Dr. Wylie thought that in acute endometritis, especially the specific, any local treatment at least was very dangerous; and that the best plan was to let the patient very much alone.

He would always lay more stress upon the preparatory treatment, and wait until the subacute stage had been reached, and treat the endometritis by applications to the vagina. He favored the local use of glycerine and alum applied on cotton-balls placed in the vagina.

With regard to dilatation, he did not agree with Dr. Mundé, but thought that in almost all cases proper intrauterine treatment could not be effected without dilatation. Besides, the cases which Dr. Munde would treat by applications within the uterus, he would rather treat by the use of the application of glycerine and alum to the vagina first, and dilate the uterine cavity afterward if necessary. He regarded drainage as an important feature of the treatment, and when the case was in the subacute stage he did not hesitate to dilate slightly, but sufficiently to admit a small silver *tube* through which an applicator could be passed to the fundus of the uterus. He agreed with the author of the paper in the statement that local applications are generally made too frequently. He used iodoform upon sponge-tents when they were employed, and also sprinkled all tampons quite freely with the same remedy, because it prevented decomposition. The point regarding applications ten days before menstruation, was new to him, but he was inclined to regard it as an important one.

Dr. Putnam-Jacobi, in closing the discussion, said that in those cases of endometritis which occur in multiparous women, even with catarrh and

exquisite irritability of the uterus, one of the characteristic conditions was the tight contractions of the internal os, and it was in such cases, in which she did not assume there was any enlargement of the uterus, that Dr. Munde had not quite got her idea concerning the homology between menstrual and puerperal subinvolution. *Menstural* subinvolution does note involve the parenchyma of the uterus at all, but the endometrium, perhaps the blood-vessels, so that there is simply a congestive endometritis, which is the starting-point of many other troubles that subsequently exist.

The one idea of the paper embraced a consideration of the *homologous* affections. The specific condition mentioned by Dr. Wylie belonged in the *heterologous* affections, and had been fully considered under that head in the other part of the paper, and so also with regard to affections of the Fallopian tubes.

With regard to prognosis, which Dr. Munde regarded as not very promising at least, Dr. Jacobi thought it depended considerably on the nature of the patients as well as the circumstances by which they were surrounded. Most cases of internal endometritis required more or less constant treatment—with the interruptions defined by the rules—during from one to two years. However, if this was carried out with due attention to *all* the requirements of the case, a cure might confidently be expected; and even where ovaries were prolapsed and somewhat enlarged, their symptoms might be allayed. Cases of salpingitis, or chronic peri-uterine abscess, were not included among the curable complications of endometritis, and were probably only curable by Tait's operation.

The Academy then adjourned.—*Medical Record.*

ST. LOUIS OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

Stated Meeting, March 20, 1884.

The President, Dr. Papin, in the Chair.

Uterine Injections.

Dr. Prewitt. — Some month or six weeks ago, I was called to see a woman who had been delivered by a midwife. I saw her first about the sixth day after her confinement. About the third day she began to be feverish, and the midwife insisted that it was only milk fever. I found the temperature 104° and immediately suspected septic trouble. The next day I found my patient much better. The fever had subsided very much, and I was congratulating myself that I was not going to have a case of septicæmia. The day after that, however, the fever came on again, and did not again disappear, but persisted, on the second day afterwards showing a temperature of 104° or more. I had given quinine very freely, but it seemed to have no effect on the temperature, and I concluded to wash out the womb. For this purpose I used an ordinary

Davidson syringe with a catheter, and proceeded very cautiously, the water returning freely. The next day the temperature declined somewhat, and I was congratulating myself on the good effects of washing out, but next morning I found the temperature was getting very high again, 104½° perhaps, and I again washed out the womb. She complained during the washing, of dizziness.

Dr. Ford.—Was there any fetor about the lochial discharge before the first injection?

Dr. Prewitt.—There was some. The intense dizziness occurred while the washing out was taking place.

Dr. McPheeters.—Did you wash out the uterus with anything but water?

Dr. Prewit.— I used a solution of about one per cent. of carbolic acid. The woman complained of her head; there was not so much pain as giddiness.

Dr. Boisliniere.—Was that immediately after the injection?

Dr. Prewitt.—It was during the injection. An intense rigor followed, and I did not venture to wash out the womb any more. In a few days the woman died. This experience was similar to one of a few years ago, and I confess that I am a little demoralized again. In that case the patient complained of an intense pain in the head at the time of the injection, which was followed by a rigor, and she also died. I do not mean to say that my last patient would not have died under any circumstances, because she had septic fever unquestionably; the high temperature was persistent, and the symptoms were already alarming, but at the same time it seemed to me that the washing of the uterus aggravated the whole aspect of the case. Other gentlemen have not had this bad luck with uterine washing. I do not know to what to attribute the kind of experience I have now had in two cases. I have used the same treatment in other cases without such results. I thought I was very careful in washing out the uterus; in both cases I used a syringe with a reservoir almost on a level with the tube.

Dr. Ford.—In both cases had there been decomposition of the lochia, as an indication for the washing?

Dr. Prewitt.—Yes, sir.

Dr. Ford.—Did you regard the case when you first saw it as distinctly septic?

Dr. Prewitt.—I thought so, yes sir.

Dr. Ford.—Or did you regard it more as a case simply of metritis or endometritis?

Dr. Prewitt. — In this last case there were hardly any evidences of metritis, there was no tenderness at all, and no other evidences of inflammatory trouble that I could see; it seemed purely septic. It has been sought to explain this sort of trouble by the theory of shock. I do not believe that air gets into the veins.

Dr. Barret.—It is not uncommon in my observation to see a chill follow an injection of the uterus. The entrance of air is of little or no consequence. Only the other day I washed out a uterus in the presence of a number of physicians, and I put a Davidson syringe in the cervix and pumped air into the uterus without water.

Dr. Briggs.—What was the condition of the womb?

Dr. Barret.—This particular one was not a puerperal uterus, it was non-pregnant, but I have done the same thing in the puerperal uterus. It is not uncommon, I think, to see a chill follow the injection, I have seen them very frequently. I have never seen the severe pain in the head that Dr. Prewitt refers to. I was called a few weeks ago to see the wife of a medical friend, who had been confined three or four days before; she had a chill, with high fever, and fœtid lochial discharge; the uterus was larger and flabbier than it ought to have been; there was no cellular inflammation that I could detect. The uterus was perfectly movable, there was no induration; the temperature was about 105°; the abdomen was not tympanitic. There was no pain. I washed out the uterus, and she had a severe chill afterwards, but I washed out fœtid clots and strings of mucus, and the same evening or the next morning the temperature went down to the normal point, and remained so for a day or two after; at the expiration of that period the fever rose again as high as ever. In the meantime I had stopped washing out the uterus. On examining her again I found that the lochial discharge was still somewhat fœtid, and that there was then some evidence of cellulitic inflammation. The broad ligament was indurated, and the uterus fixed. I washed out the uterus a number of times again, and each time the washing was followed by a chill. The subsequent washings seemed to have little effect on the temperature after the pelvic inflammation was established.

Dr. Briggs.—Did the chill immediately follow the washing?

Dr. Barret.—No sir; it came on half an hour or so afterwards; the chill generally supervened after I had left the house. I will mention here as my observation of a good many cases of septic troubles, that quinine does not seem to have any permanent influence in reducing the temperature. I lately attended a case with Dr. Love, in which he gave enormous doses—30 or 40 grains—and yet the temperature rose to 106°. My observation has been that quinine is incompetent to reduce the temperature in these cases. In the case I have just been alluding to, I was satisfied that the quinine did more harm than good; it increased the general excitement every time it was given. After a few days under the use of morphia and suitable nourishment, the temperature subsided, and the woman finally recovered. By washing out the uterus—if it is done early enough—and keeping the uterus clean, we may prevent septic poisoning, but after the septic matter has been absorbed, and cellular inflammations have occurred, the injections are of little advantage.

Dr. Ford.—I would like to ask Dr. Barret if he ties the catheter in the uterus?

Dr. Barret.—I do in those cases where I wash out frequently. I have done it in a great many cases. I had a patient where I washed it out every hour for eighteen days. It was a case in which I removed a fibroid.

Dr. G. A. Moses.—Dr. Barret has touched upon the very point I was about to speak of. Washing out the cavity of the uterus under these circumstance I think is too often resorted to. If there is a fetid lochial discharge and high temperature, these signs are considered prima facie evidences of sepsis, and washing out is resorted to, no matter at what period of the disease the patient happens to be seen. I am quite sure that the utility of washing out the cavity of the uterus is very great, but more particularly when there are retained matters which are putrefying. The lochial discharge is never very sweet, and not always intensely poisonous. If there is no residual organic matter in the cavity of the uterus, as we have a surface which is more or less traumatic, the washing out of such cases is really injurious, and after the first washing out, if we are satisfied that there is no remnant of putrefying matter in the womb, we will most likely be able to get along without washing out the cavity again, but the inflammation has probably spread to contiguous structures, and the septic influence is already at work. If there is any inflammatory infiltration detectable, not only does washing out do no good, but it absolutely does harm, causing additional local irritation. It is not difficult to ascertain satisfactorily whether there is any remaining putrefying matter within the cavity of the womb at this period. Washing out of the uterus is certainly of great advantage at an early period in these cases, when we are certain that there is retained material within the cavity of the womb, but after the inflammation has extended, the washing out is absolutely useless and really harmful. I cannot help thinking that, although quinine does not cure these cases, it is the most powerful medicinal agent we have for correcting septic influences, and it does bring down the temperature, even though it does not retain it at the point we would desire. I cannot help feeling that it is of very great benefit. It is not always necessary to keep up the large does that we use at first to abate the high temperature promptly. Even in cases where the fever has continued for some time I have never failed to find quinine effective. I regard quinine and alcohol as our main stay in these cases, as systemic antiseptics.

Dr. Ford.—Dr. Moses observes, that in the secondary complications of septicemia, during the extension of a metritis or an endometritis, where the discharges from the uterus are fetid, he is averse to the washing out of the cavity of the womb, that it does more harm than good to do so. This seems to me to be contrary to the general principles of surgery in such matters, and in gynecology, which is a part of surgery, we must

adopt the principles which govern in surgery. Nobody would refrain from washing out a fetid pleural cavity, or abscess sac, or discontinue such washings, because of the occurrence of any complications, or because the fever persisted; these are only reasons for conducting the washings more assiduously. It would certainly be inadvisable in my opinion to discontinue the washing out of the cavity as long as the discharge from the uterine cavity is fetid. Properly done, the practice cannot fail to the useful.

Dr. Moses.—When and wherever the discharge from the genital passages is putrid, I agree with you that the cavity should be washed out, because then there are probably some retained membranes.

Dr. Ford.—The putridity may be only from the decomposition of the fluid lymphoid matters in the uterine cavity.

Dr. McPheeters.—I beg leave to refer to a case of endometritis in which I resorted to intra-uterine injections. The patient had an ordinary labor and got along remarkably well for ten days, and I regarded her as out of danger, but on the evening of the tenth day she had a severe and protracted chill lasting nearly two hours, followed by fever; and very soon the symptoms of endometritis set in, and the discharge became decidedly purulent. I resorted to the uterine washing, and my patient recovered, although she had ten or a dozen pyemic abscesses, some of them enormously large. When well defined fetor comes on, which is owing to the decay of some portion of the placenta or of the discharges, the odor is very different from that of any ordinary discharge, and I think with Dr. Ford, that when this fetor exists, the uterine dunche is indicated. I have known other cases analogous to those mentioned by Dr. Prewitt, so that sometimes there is a risk in these cases. That has also been the experience of others.

Dr. G. A. Moses.—What sort of an instrument did you use for washing out the uterus?

Dr. McPheeters.—I used in the case mentioned a large sized flexible catheter and an ordinary pump-syringe. I washed out very freely, and used a one or two per cent. solution of carbolic acid.

Dr. G A. Moses.—Did you find it necessary to dilate the cervix?

Dr. McPheeters.—Oh, no, even the large catheter was introduced without any trouble.

Dr. Barret.— I think there is less danger in injecting the inflamed womb than there is in injecting one that is not inflamed, if it is prudently and carefully done. Of course, a physician in his manipulations with the tube may produce so much mechanical irritation as to do harm, but I do not believe that the gentle introduction or judicious employment of a tube, one that is small enough, will do harm. I think the patient ought to be in Sims' position, and the speculum should be used in introducing the tube. I do not think that if this is done the patient will be injured

by gently washing out the uterus, whether the washing is necessary or not. I am sure from my observation in washing out non-puerpal uteri that there is less danger in injecting fluid into the uterus when it is inflamed than when it is not. There is no safety in injecting a drop of fluid into the non-impregnated uterus, unless the os is dilated. I do not mean patulous, because that does not meet the conditions, the os must be paralyzed, it must be in a condition of atony; it must be dilated in such a way that it cannot contract until the fluid escapes. There is no danger in injecting the uterus, provided the neck of the womb has been dilated and is in a condition of atony, so that it will not contract. I have injected a great many uteri, and I have seen a great many more injected, and I have never seen any ill effects from the practice that I could attribate to the use of the injection except in one case in which the patient died from peritonitis. She might have died if no injection had been practised.

Dr. McPheeters.—In using these intra-uterine injections it is my practice to use water a little warmer than is usually recommended. The application of warm water to an inflamed surface, whether of the nterus or elsewhere, is always grateful and generally beneficial.

Dr. Boiliniere.—Do you dilate the uterus with a mechanical dilator before giving the injection?

Dr. McPheeters.—I use a tent.

Dr. Boiliniere.—I am speaking of gynecological cases.

Dr. McPheeters.—I have always used a tent.

Dr. Ford.—I would like to ask Dr. Barret how he would proceed in a case of septicemia with lochia where the cervix was badly lacerated, the perineum badly lacerated, fever coming on the second day, and the temperature running up to 105°. Would he think it necessary to wash out the uterus every two hours or even every hour at first? How would he proceed?

Dr. Barret.—In a case of that kind I would put the catheter in and keep it in.

Dr. Ford.—Would you tie it in?

Dr. Barret.—Yes, sir. I would tie it in such a case, but where it is only necessary to wash it out at long intervals, and where there is no objection to a slight disturbance of the patient, I think it better to use a small instrument not tied in.—*Courier of Medicine.*

On Supporting the Perineum.—In the *Clinique d'Accouchments* at Paris, Depaul in one of his last lectures said: "I *never* support the perineum; I am contented with supporting the head of the fetus and preventing it from emerging too suddenly." Often, when the perineum has been supported, it has been found on withdrawing the hand that a rent has been made in the perineum by the hand itself. For this reason Depaul said, "Support the head, but leave the perineum alone."—*London Medical Record.*

Foreign Gleanings.

TRANSLATIONS FROM THE FRENCH AND GERMAN.

[Prepared for the OBSTETRIC GAZETTE.]

DIPSOMANIA.—A series of lectures delivered at Asile Ste. Anne, by M. Magnan. Translated from *Progrès Médical*, by Joseph Eichberg, M. D.

Symptoms. — The delirium of alcohol, which finally complicates the attack of dipsomania, if the latter has lasted sufficiently long or been so frequently repeated that large quantities of alcohol are stored up in the body, ought not to be confounded with dipsomania, of which it is a complication, and not a symptom.

Trélat, in his work on *Folie Lucide*, has insisted on the difference between these two conditions. "Drunkards," he says, "are those who drink to intoxication whenever they find the opportunity; dipsomaniacs are patients who drink to intoxication only when their paroxysm comes on." In other words, any one may become a drinker, but no man can of his own volition develop dipsomania.

Dipsomania, as we have said, is especially characterized by its paroxysmal occurrence; by the intermittence of the attacks, and by the cerebral malaise which these latter leave behind. This uneasiness gradually loses itself, and the patients resume their former regular habits, regretting the excesses to which they have been led.

The attack is preceded by paroxysmal symptoms, which are nearly the same in every case. A vague sense of sadness, that amusements or occupation can not dispel; the patient, mentally depressed or discouraged, soon relinquishes his work, to which he can not devote his attention; dark thoughts come over him, his surroundings seem changed, he feels himself threatened by some approaching disaster, his disposition becomes irritable, his affections altered, those who are dearest to him are now received with indifference. To these moral and intellectual symptoms, others of a physical nature are soon added. At first we have anorexia, with precardial distress, a sense of constriction in the epigastrium or the throat, then disgust for all solid food. Finally, disturbances of general sensibility supervene, the patient complains of burning in the stomach, great dryness in the throat, has a violent thirst, not to be allayed by any ordinary beverage, but a thirst with an irresistable tendency to drink some stimulant.

From this time on nothing can stop the patient. He must, in spite of every obstacle, have some alcoholic drink; when he can no longer find money, he does not recoil before the most disgraceful expedient to obtain it, that he may satisfy his craving; theft, prostitution or actual crime, any thing to obtain his stimulant. It is then that we see the father carrying

to the bar room the last possessions of the family, remaining deaf to the entreaties of the mother, who shows him the children suffering for bread; it is then that we see the mother, totally forgetful of her duty, and losing all sense of shame, prostituting herself for a few glasses of liquor, or, as in a case reported from England recently, selling her daughter to a life of shame.

We have here a patient whose history well shows us the course of the disease.

Louise ——— was married in 1873, at twenty-four years of age. Her husband, who had known her several years, loved her fondly, and she was devoted to her husband. The first signs of a pregnancy coming shortly after their marriage made the union only the more intimate; it seemed that nothing could disturb the tranquility of their household, when, about the third month of her pregnancy, Louise, without any apparent cause, gradually became melancholy; all society, every amusement wearied her; the least duties became a charge; she sought solitude but was still pursued by the same feeling of lassitude and ennui. At the same time she felt a distaste for all solid food, and began to experience an incessant thirst that nothing would satisfy, a constant dryness in the throat. At first she tried to relieve herself by infusions of mint, then by wine, but here desire to drink was not allayed, and she finally concluded to try a little brandy. The relief that she at once experienced led her to take more; the first excitement of intoxication dispelled her uneasiness; she continued to drink, and in a short time had taken a half bottle of alcohol, and was completely intoxicated.

After fifteen days of a regular life, she feels her old melancholy attack coming on, and yields to her desire as before, with the same result. Her husband and her family, who attribute this craving to her pregnancy, employ all the means they can, reproach, advice, supervision, to make her give up this depraved taste; she promises, and keeps her word for one month, but the sadness and desire to drink again overcome her; it is the one fixed idea which possesses her, without her being able to escape it. After a short struggle, seeing that she is on the point of yielding, and wishing to escape the reproaches which she foresees, she disappears from home, taking with her some clothes, etc., which she sells at ridiculous prices. She then buys brandy, shuts herself in, alone, in a hotel room, and drinks till she falls unconscious. The following day, her husband, after searching for her all night, finds her in a stupefied condition, and with soiled garments. He conducts her back to their home, where she is guarded with redoubled vigilance. New relapses, however, occur, until finally, she is delivered at term, the labor being normal.

She has scarcely left her bed when she again feels the first symptoms of sadness and discouragement, always attended by malaise, with sense of constriction in the epigastrium and dryness in the throat, followed by

the imperative desire for drink. At first she resists, for she knows that once engaged on the fatal incline, she will be carried down to the lowest grade of all that is abject. Warnings are not wanting on the part of her friends; she is carefully guarded, and still she yields to the struggle, and all her efforts are directed to satisfying that irresistable longing. From that time on the attacks become more frequent. They appear at irregular intervals, but are more likely to occur at the time of menstruation. Not contented with excesses in the use of brandy, she consumes large quantities of absinthe, the effects of which are soon apparent in the form of muscular twitchings and vertigo. The stricken family is at a loss to explain the condition of the patient. This woman, chaste and reserved as she is in her sober moments, has no sooner begun to drink than she loses all sense of shame or continence. For a glass of brandy she yields to every stranger. The lowest bar rooms become her resort, and it is in the midst of the degraded population, with the prostitutes of the place, that she abandons berself to the most shameful debaucheries. At times she is obliged to leave her very garments to pay the account, as she has no money; and the officers of police find her lying in the streets in a state of almost absolute nudity.

After the attack she regains possession of her faculties, unhappy and ashamed for what she has done, and promises not to be led astray any more. Her resolutions are sincere, and she gladly tries all experiments which have for their object to avert her *penchant*. She is placed in a business house, with the hope that surrounded all day by a kind supervision, she will not have the same facilities for drinking, and will return quietly in the evening to her home, where her husband and child wait her coming. All these precautions, however, are vain; when the impulse is felt she invents a thousand excuses for recommencing her intoxication; after the first glass her best resolutions vanish, to give place to the brutal satisfaction of her appetite.

Later, it is decided to place her with an uncle, a physician, living in the country. She willingly agrees, thinking to find there more efficient protection. In fact, everything is done there to guard against new attacks, persuasion, intimidation and restraint are employed, to no purpose, the attacks once begun she evades all supervision and begins to drink. At a certain period, however, she seems to improve, and there is a respite of three months. Her husband, believing her cured, brings her back to Paris, where her friends all congratulate her. From the very first day she feels sad and listless, does her housework without any interest in it, and passes a sleepless night. The next evening her husband on returning from his work finds her on the ground in a state of beastly intoxication, her clothing soiled by her dejections. She is again put in care of her uncle, but no appreciable benefit obtained. Returning again to Paris she continues her double existence, behaving at one time as a

wife worthy of all esteem, at another returning fatally to the most abject orgies.

In January, 1877, she leaves one morning, without any other desire than of working at her place of business, but being attacked on the way, she pawns a ring, and does not leave the bar room for two days. After being twice arrested, and sleeping at the station house, she is found by her husband, half naked, nearly all her clothes having been left as security for drinks.

The following May the same thing occurs. This time she remains away from home four days, during which time she drinks absinthe, without taking any nourishment, going secretly to the wine rooms, to remain until the hour of closing; pushed out of doors, she wanders through the streets all night, awaiting the opening of the first saloon, to find in her favorite drink a slight allaying of the intense thirst that is consuming her. The scandal taking place about her causes her arrest. When her husband finds her at the station, she is again almost naked; even her corset is gone, having been left as security for some drink. Her cloak had also been deposited for two glasses of brandy.

Another time, toward the end of July, she goes out for a walk, and is careful to have her little boy accompany her, so that she may have more firmness in resisting her impulses. Notwithstanding these precautions, she drinks several glasses of wine on the way, and being slightly tipsy on her arrival at the gardens she confides the care of her child to a drunkard whom she meets there. Her husband, not finding her at home, seeks for her, to no purpose, and finally sees her return about eleven in the evening, forcibly led back by a laborer, as drunk as herself. She feared that in returning home she would be badly received, and had stopped the workman to bring her home. The following day she was placed with friends who thought they would be able to watch her, but the paroxysm again came on, and she escaped to seek her drink in a part of the city far removed, where she was twice arrested in two days.

To-day these attacks have left lasting and marked effects. Louise drinks until she becomes unconscious and motionless, she then remains several hours in this prostration, and is stupid and unable to work.

It was under these circumstances that she was brought to our hospital, where, a week after her arrival she was calm, reasonable, and gave very exact statements as to her past history.

You see her deplore her unhappy tendency to drink. She knows that she could have been very happy in her household, and that her irregularities have brought all this misery upon her, her husband not being able to supply the money for the house and for her excesses. She points out very clearly the prodromic symptoms which precede the attacks, and the uselessness of her efforts to resist them.

Several times, feeling that she was under the influence of an attack,

she went out with her son, hoping to find in his presence some guaranty against temptation, but it was useless, she was obliged to enter the wine-house leading the child by the hand.

On several occasions she was impelled to suicide, to throw herself into the Seine; she even drank to rally her courage for the efforts but the brandy seemed to deprive her of all energy. Instead of stopping at the small quantity necessary to produce a slight excitement, she drank until she was brutally intoxicated.

[TO BE CONTINUED.]

Abstracts and Selections.

I. — OBSTETRIC.

Vinegar in Post Partum Hæmorrhage.—About ten years since, I attended a patient who had most violent *post partum* hæmorrhage, so severe, indeed, that I began to despair of arresting it. I had not ergot with me, and ice was not procurable. I directed the attendant to give a wineglassful of pure brandy. The uterus, which was before flaccid, contracted instantaneously under my hand, and the bleeding ceased. On proceeding to give some more brandy, I discovered that the patient had been given vinegar instead of brandy. The effect was so marked, that I inquired of the old midwife who was with me, whether she has ever heard of vinegar being used before; she informed me that in her part of the country it was considered an excellent remedy, but that she had rarely, if ever, used it. When lecturing to a class of pupil-midwives shortly afterwards, I mentioned the case, and advised them most strongly to give the vinegar a trial in case of need. It seems to have escaped my memory until, about two years ago, the midwife at Queen Charlotte's Lying-in Hospital reminded me of my recommendation, and told me she had given vinegar repeated trials, and preferred it to ergot on account of its certain and instantaneous action. She was such a reliable and clever midwife, that I felt her testimony might be taken. Since then I have carefully questioned all my pupil-midwives as to its action, for until recently it was never used in the hospital. They all agree that, in their cases of hæmorrhage in the out-patient department, where thay were allowed to use vinegar, hæmorrhage was arrested much more quickly than in the hospital with ergot. It was not until recently that I had a good test-case; the patient belonged to a family of "flooders;" her mother and two of her near relations had bled to death. As soon as the child was born, she began to flood. I expelled the placenta, and grave a wineglassful of vinegar. The uterus, which was very flaccid, and constantly dilating, at once contracted firmly under my hand; it did not again relax, although the hæmorrhage con-

tinued to a moderate extent. At the end of fifteen minutes I gave a second dose, about two-thirds of a wineglassful. In both instances it was given pure, without any water. This soon arrested the hæmorrhage, and the patient did well. I used no other means beyond holding the uterus, as I was perfectly satisfied with the result. I feel certain that I should not have obtained such favorable results with ergot. The action of vinegar is so rapid, that I refrain from using it or permitting its use before the placenta is expelled, for fear of causing a retention of that body and making its removal difficult. From my own experience, and from the reports obtained from my midwives, pupil-midwives, and house-surgeons, I can confidently recommend the use of vinegar in *post partum* hæmorrhage. It is a remedy, if not always at hand, at any moment procurable, simple and harmless, not open to the objection against ergot, which in the hands of midwives is very liable to be used to hasten delivery, nor to the serious disadvantage and dangers of intra-uterine injections. If further trials, on a more extended scale, confirm my experience, I have no hesitation in saying that vinegar will have to be regarded almost as the specific for *post partum* hæmorrhage.—W. C. GRIGG, M.D., *in British Med. Jour.*

Use of Forceps in Breech Presentations.—Dr. Truzzi is strongly in favor of the use of forceps in breech presentations. He says that, in cases of impaction of the breech in the upper or middle parts of the pelvic cavity, the prompt extraction of the fetus being indicated, and while one of the hips is not yet rotated under the arch of the pubes, it is better to have recourse to the application of the forceps to the fetal pelvis than trust to traction on the groins, which is insufficient if practiced with the fingers, and dangerous with the blunt hook or fillet. The proposal of Olivier to apply the forceps on the thighs rather than to the pelvis of the fetus, though seductive theoretically, does not work practically. It is difficult to limit the pressure of the forceps to the thighs alone; and if this be not done the abdomen would be pressed on, and possibly even the liver injured. The concave extremities of the forceps pressing on the convex surface of the thighs, slip downwards and forwards, and after a few pulls the original good hold is lost. Much easier and safer is the plan of applying the forceps to the side of the fetal pelvis. The iliac bones at this period are so elastic, and, compared with the bones of the head, are so protected by the soft parts, that even if the force of compression be somewhat abused, it is difficult to injure the fetal pelvis. To obtain a firm hold, the extremities of the blades must be passed beyond the crests of the ilia, and when the handles are approximated they bury themselves slightly in the walls of the abdomen, and, on traction being applied, bear on the crests of the ilia, and at the same time impart to the hips of the fetus a convexity to which the concavity of the blades of the forceps exactly adapts itself. The liver runs no risk since, large as it is in the fetus, it never descends to the level of the crest

of the ilium; besides, its lowest part is the thin edge of the right lobe, which may be displaced inwards, but not lacerated or contused by pressure of the forceps. The same may be said of the intestine, which from its motility avoids even the consequences of considerable pressure if this be made in a methodical and skillful manner. A folded cloth may be placed, as suggested by Tarnier, between the handles of the forceps, to prevent too much compression. The forceps takes a better hold, and the author has never seen it slip in sacro-anterior positions. He recommends, in some cases of sacro-posterior positions, that the position should be altered by a forcible rotation of the sacrum forwards before using traction. It is better, he says, to keep up a certain amount of compression in the intervals of traction; if this be not done, the iliac wings, by their great elasticity, tend to resume their normal place, and the forceps may be displaced.—*Lon. Med. Record.*

Double Os Uteri and Vagina.—On the evening of October 6th, 1883, I was called to a case of labor. The patient had been marrried five years; this was her first confinement. The pains were strong and expulsive. On examination, I found the cervix long and undilated, the external os only just admitting the tip of the finger; the internal os and uterine cavity could not be reached. The head of the fœtus could be plainly felt in front of the cervix, apparently pushing its way with every pain directly through the vaginal roof.

Extreme antiflexion of the gravid uterus and extra-uterine pregnancy appeared to me to be the only causes which could produce any thing similar to this; but the former was negatived by the size and shape of the abdomen, and the latter idea it was, of course, impossible to entertain. Finding myself altogether unable to understand the case, I drove on to the house of my friend, Mr. Lawson Tait, to see if I could obtain some light on the subject. He evidently considered it (most likely in consequence of being engaged, and of my description being imperfect) as probably a case of lingering labor in a primipara, and gave counsel according. On my return I found the patient in the same condition as before; the pains violent, the cervix undilated, and the head of the fœtus apparently crushing through the vaginal roof, the structures between the examining finger and the head of the fœtus being so thinned by pressure, as to give the impression of being on the very point of bursting. On closer examination of the soft parts, however, I found the explanation of the phenomena. There were two vaginæ, two cervices uteri, and possibly (but of this I could not be sure) two uteri. The patient was lying on her left side, in the usual obstetric position; my finger had always passed into the left vagina, which was empty, and the fœtus was coming through the right cervix and vagina. I delivered the patient with forceps about 4 A.M.; unfortunately, the child was dead. A little laceration of the septum be-

tween the two vaginæ occurred in the delivery, but this was not to any great extent; and the patient has made a good recovery.—JOHN W. TAYLOR, F.R.C.S., *in the British Medical Journal.*

Labor at the End of the Seventh Month without Rupture of the Fetal Sac. Dr. E. F. Cowger, of Riverton, Ia., sends us the report of a case as follows: "I was called September 8, 1876, to attend a healthy young woman in her second confinement. She, the day previous, while stepping out at a door, slipped and fell quite a distance, and in a few minutes after her fall she noticed a flow of blood from the vagina. During the following night labor pains set in and I saw her about noon the next day. She claimed that she was only at the end of the seventh month, and, from circumstances not necessary here to relate, and from the development of the child, I believe her statements were true. Having quite a distance to go I only got into the room when the child was born, with placenta and with the membranes intact. Thinking the child dead, and judging from the appearance of the mother that she needed my immediate attention, I first examined into her condition, and while making this examination I noticed that the sac moved. I at once ruptured the membranes, cut the cord, but did not then tie it, and removed the child, which I noticed was making some effort to breathe, wrapped it up warm and laid it out of the way, and then attended to the mother who was flooding quite freely. After making her as comfortable as possible, I went to the child and to my surprise found it breathing, though very feeble. I left instructions with the nurse not to disturb it until I again saw it, and to keep it warm. I called the next day, when we washed and dressed the babe, and to-day he is a fine, large, healthy boy. The mother made a good recovery."

Iodide of Potassium as an Antigalactagogue.—In a recent case of excessive secretion of milk after weaning, I have found the above drug of great service. The child had been weaned more than a week, and the breasts were very large, hard, and tender. Belladonna and aconite, applied freely, together and singly, had failed; this, although combined with firm compression of the breasts by a bandage, and the administration of salines and purgatives—a form of treatment generally successful. Ten grains of iodide of potassium were taken three times a day, and decided relief was obtained after the fourth dose. In all, 160 grains were taken, and then all trace of swelling had disappeared. With each dose I gave half a grain of quinine, as I always do when giving the iodide in rather large doses. There was no symptom of iodism. Before taking the drug internally, my patient had used the iodide and soap liniment for two days without much benefit, and continued to use it till treatment ceased.

As long ago as 1858, Roussel, and, in 1861, Delmas, recommended the iodide, and were supported by Dr. Morris, of Cheltenham, in 1864. Dr. Dolan, however, in the *Practitioner* of 1881, quotes Dr. Morris, but reports that the drug, given by himself in larger doses than Dr. Morris had used—namely, fifteen grains against a drachm—had produced no effect. At the time of my case, I had not seen these papers, and was led to use the iodide solely on account of its known action on glandular tissues. I could find no mention of it in Ringer, Woods, Bartholow, or Phillips.—T. Jenner Verrall, Brighton, in *British Medical Journal.*

Abortion Induced by Intestinal Worms.— At a meeting of the Moscow Medical Society were reported the cases of two young and generally healthy women one of whom had aborted six successive times in five years, and the other twice within two years. In one of them bothriocephalus latus was present, in the other tenia armata. Shortly after being cured of the parasites both of the women became pregnant, labor now coming on at full term. The author is inclined to think that abortion in these two cases was induced in a reflex way by continued irritation kept up by these worms.—*Lon. Med. Record.*

Sulphate of Iron in the Treatment of Hemorrhoids and Protocele. — Dr. Wimpelberg recommends an ointment of the subsulphate, in the proportion of 12 grains to the ounce, to be applied night and morning. In cases of protocele, he uses the persalt internally, in doses of 2 gr. three times a day, in conjunction with the local use of the ointment. He speaks particularly of the rapidity with which he has known piles to disappear under this treatment during pregnancy.—*Medical Bulletin.*

II.—GYNECIC.

Recent Advances in Pelvic Surgery.— By Lawson Tait, F.R.C.S., before the Harveian Society, London, published in the *Medical Press:*

In obedience to the invitation of your secretary, I have very great pleasure in addressing this distinguished society as a slight recognition of the honor conferred upon me by admission to its membership.

I do not know that the physician by whose name this Society has marked itself, did anything which either directly or indirectly contributed to the advance of pelvic surgery, as we may surely conclude that pelvic surgery, save within the narrow limits of lithotomy and operations for piles, is a growth entirely of this century. It is true, at least I believe I have established the fact, that the first ovarian tumor operated upon was removed in Renfrewshire, by Dr. Houston in 1701, but such an operation as that known as ovariotomy may really be considered as abdominal rather than pelvic, and even that dates its establishment within our own century.

From the fact that my own practice is confined to the diseases peculiar to women, so completely that I do not suppose I see on an average one male patient a year, and then he comes for abdominal and not pelvic surgery, I am wholly unable to speak of the recent advances in the treatment of the pelvic diseases of men. What I have to say is of work in a wider and more varied field, the pelvic diseases of women, and this field practically remained closed till the year 1878. The light of progress did not shine till we awoke to the fact that Keith by giving us the clamp had brought his ovariotomy mortality down from 20 per cent. to 5, so that all done since then is, in a large measure, to be credited to that distinguished surgeon. With such results our fear of the abdomen and its subordinate cavity, the pelvis, vanished and numerous advances have been made.

I have already written and published so much on the marked success now obtained in the primary results of abdominal and pelvic surgery, that I am almost tired of saying any more about it, and I fear that I should weary this audience if I resumed the thrice-told tale. What I desire to do to-night is to say something in detail of the secondary results of these advances, of the ultimate success and failures, for it is by these and by these alone that the whole of our work must be judged. The whole profession, every branch of it, has been guilty far too much of rushing into print with new operations and new drugs, announcing, nevertheless, results long before time had made it possible to judge of their permanence and real value. In the case of operations it has been only of late that we have estimated their value by any statistical method at all, and even now our best statistical methods are faulty. We are still too easily contented with seeing our patient safely out of bed, or out of our hands, and then publishing the results as satisfactory. But the results are not satisfactory unless we can say of the operations, or at least of many of them, that years after the events both patients and surgeons were glad that the operations had been done. I fear there is no field of operative surgery from which examples might not be taken of the enthusiastic adoption of new proceedings, followed by their extensive application and final abandonment. The curious feature about the latter process is, that it seems to be generally arrived at by common consent and not by any distinctly rendered professional judgment. It is, in fact, true of operations in a more tangible way and to a more limited extent, as is true of new remedies in the hands of the physician—they come and most of them go without leaving any real good behind them. These latter form no real advance; they are the preliminary experiments which prove failures, but which are essential in every line of human research previous to the establishment of an ultimate success. To those who criticise our art on account of its slow progress and its many imperfections, I would answer that they ought to read Mr. Darwin's statement of

the probable experiments made for the mere result of arriving at our present vegetable food supply, and they will cease to wonder that medicine and surgery are still amongst the arts less than they are among the sciences.

When, therefore, it is claimed for any new departure that it is an advance, it must be established that the secondary results are as satisfactory as those obtained primarily, and that they are permanent. During the last six years several innovations have been at least established, in all of which I have had a considerable, if not a chief share, and for most of these to-night I mean to claim that they are real advances, in so far that their primary results are such as justify them, and their secondary results are satisfactory and permanent.

The first of these is the more frequency of the operation of abdominal section as an aid in diagnosis, and by this I do not so much mean the diagnosis of individual cases as of diagnosis in a general application. Let me give an example: Many years ago I was taught, and then believed, a variety of differential diagnostic signs in pelvic troubles, and by one of the greatest masters of his art. I read then, and I have read since many lectures on parametritis and perimetritis, and I believed I was competent to discriminate between the two and between them and many other conditions. It was only after I had accomplished a large number of abdominal sections for pelvic troubles that I understood how ignorant we had been and still are; and now I peruse lectures on these subjects by distinguished physicians who have never had their finger in the pelvis from above, and marvel that they can talk so fluently on mere guess work. Given a pelvis with a uterus fixed by inflammatory or other effusion, with a mass in front or behind, on one side or both, I say it is absolutely impossible for any man to give more than a guess at the real state of matters inside from a vaginal examination. As to whether it may be advisable to make an accurate diagnosis in another way must be determined by the conditions of each case, but the discussion of this question must be approached only on the understanding that, by the very means upon which alone an accurate diagnosis depends, can there be, in the great majority of cases, anything like an avenue opened up for successful treatment.

Let me give an example of this in detail. The wife of a doctor of medicine was sent to me from a long distance suffering from what had been variously diagnosed as parametritis, perimetritis, pelvic cellulitis, and abscess. She was under treatment elsewhere for many months; had an aspirator passed more than once into the pelvic cavity from the vagina, bringing away serum, pus, and detritus, but she got no better. The whole trouble began in a miscarriage, and from a long detailed history given to me by the letters of her husband, I was of opinion that the case would probably prove to be one of pyosalpinx. But, even after I saw

her, I would not and could not give any precise opinion without an abdominal section, for in that way only could an accurate diagnosis be made, and, at the same time a successful treatment of the case might probably be accomplished. I found the patient worn out with suffering and in constant pain, taking several grains of morphia under the skin every twenty-four hours. The whole contents of the pelvis were matted together, and the uterus quite immovable.

The patient's husband at once accepted my proposal to open the abdomen and deal with matters as I best could. I operated and found above as I found below, the whole pelvic contents, including several coils of intestine, all glued together and completely fixed. After much careful manipulation I succeeded in isolating a mass which proved to be the right ovary enlarged and riddled with abscesses, originating in the follicles. The patient made a somewhat tedious recovery, yet considering her condition before the operation, it proceeded at a satisfactory rate. Exactly one month and a day from the operation her husband wrote to me, "I was delighted beyond measure when I saw my wife walking down the station platform to meet me, and telling me also how she had borne her journey (a very long one) without fatigue." Her illness had extended over a year, and yet she was cured in a month. The condition found was such that it is a matter of no surprise that all previous treatment had failed. Nothing but the proceeding I adopted could have established the diagnosis, and even before the diagnosis was completed the treatment was accomplished; that is to say, as I did not know, and could not possibly have discovered, that I was dealing with a case of abscess of the ovary till the operation was over; it is absolute nonsense to talk of waiting in such a case till the diagnosis is made before operative proceedings are discussed. The whole merit of this proceeding, which I claim to be a distinct surgical advance, is that the completion of the diagnosis and the completion of the treatment are coincident, both having been alike imperfect and impracticable on previous lines.

I am here met constantly with the objection evident to every one that the indiscriminate employment of abdominal section would be disastrous, and I at once reply that my proposal is not for its indiscriminate employment. As in every other department of our art, each case must be judged on its own merits. I appeal at the outset of the discussion of this point to my results, which show that a mere exploratory incision may be made with hardly any risk at all, and that the results of completed operations of this kind have a mortality of less than three per cent. The real difficulty lies in the operations which are not limited to mere exploratory incisions, and which are not completed, for these are very fatal, and a large number of those in a list must always mean bad work. In my early practice they were far more numerous than they are now, in fact, amongst the class of cases of which I am now speaking—inflammatory disease of

the pelvis, I have not had an incomplete operation, nor a mere exploratory incision for about three years and a half. I speak, of course, in the case of the exploratory incision subject to the correction that I may have mistaken cases truly of this character for malignant disease, but I do not think this very likely. At least I have heard of none such yet.

Here I must mention what seems to me the great difficulty about the general acceptance and extension of this kind of work. It differs, so far as I can see, from every kind of surgical work in that it cannot be taught in any kind of way. Any surgeon of average intelligence and manipulative skill, after seeing a few operations for the removal of ovarian tumors may begin to operate with a fair chance of success. At least he can learn a very great deal by watching others operate. But in the removal of a small suppurating ovary, densely adherent to surrounding organs, and covered by adherent intestines, the difficulties and how they are overcome can be seen by no one, not even by the surgeon himself. I cannot in the least describe how it is that I can discriminate by my finger tips between a piece of intestine and the bladder, or a distended tube; between the fundus uteri and an enlarged and adherent ovary. I have felt dreadfully certain, on many occasions, that at last I must have torn a hole in something which would be fatal, and yet the accident has never happened.

The difficulty about teaching is, however, a serious one, for it would seem as if each one who follows me in this work must begin absolutely in ignorance. All that can be seen in my operations is my fore and middle fingers buried in the pelvis, and, after much scratching about, fishing up a purulent tube or a suppurating ovary. Many of my visitors go away grievously disappointed, and I know not how to obviate this difficulty.

Before we discuss the ultimate results of this kind of practice something must be said in answer to several objections which have been urged against it. It has been said that such operations as that I have instanced, and some others, are objectionable because they unsex and sterilize the patient.

The fallacy of the first objection has been so repeatedly exposed that I need not further allude to it. Nor need I take up much time in showing at length how completely sterilized a patient must be in whom the pelvic organs are matted together. The loss of one or both ovaries in her case will make no differance. A woman with an abscess in an ovary or Fallopian tube can no more bear sexual intercourse than a man can read fine print who has chronic retinitis. The woman is therefore both unsexed and sterilized by the diseased organs. Their removal restores her sexual powers, and makes no difference in her sterility.

A further and more tangible objection to the operation is made by a recent critic, who says that some less severe measure than abdominal section should be found for dealing with them. I would answer this by detail, as in the case I have quoted. How could multiple follicular abscesses

of the ovary be treated save by removal of the gland? The aspirator was tried, and it failed. It is impossible to deal with an abscess, when it can never be known with certainty that there is an abcess, nor in what organ it is, nor where that organ is, save by abdominal section. In fact the answer is that the diagnosis and treatment are practically concurrent; it is impossible to substitute any other means. I have punctured with the aspirator at the most likely spots, and got nothing out, yet I have removed afterwards from the same patient a large pyosalpinx. And even if we were successful enough to hit the abscess, we are all aware of the fact that the aspiration of an abscess seldom prevents its subsequent filling; that opening and drainage form the only alternative. I confess that, knowing as I do the difficulties of dealing with these cases from above, I could not contemplate with confidence the proposal to grope at them from below. I cannot see, therefore, how any proceeding at present known can supersede abdominal section.

We come finally, then, to the question of ultimate success. How have patients got on for a somewhat prolonged period after the operation? To answer this question I propose to give in prominent detail a series of fifty cases from the work done from 1879 to 1881, in consecutive order as they were originally published, so that any one who has sufficient interest may identify them.

Removal of extra-uterine fetus	1
Abscess of ovary	1
Removal of uterine appendages for menstrual epilepsy	2
" " " pyosalpinx	2
" " " hydrosalpinx	6
" " " menorrhagia	2
" " " myoma	13
" " " chronic ovaritis	14
Opening and draining of pelvic abscesses	9—50

I take fifty cases as a series because it is a sufficiently large number from which to form conclusions, and as the first case was done on March 30, 1879, and the last on June 13 1881, a sufficiently long interval has elapsed in all of them to justify me in making statements as to the permanency of the results. During the time embraced by this group three deaths occurred, two in cases of removal of the appendages for myoma, the patients having been reduced to the last stage of anemia by hemorrhage. The third death was after removal of the appendages for ovaritis, the fatal issues being due I believe to scarlet fever causing septic peritonitis, which a vigorous employment of the details of Lister's carbolism was wholly unable to prevent. This mortality, under six per cent, was, save in the third case, inevitable.

The first case need not occupy us long, as it has already been published in detail. It was one of extra-uterine pregnancy where the fetus had died

apparently about the fifth month, and constituted a truly pelvic tumor, which gave rise to distressing pain. No exact diagnosis was possible, and I began the operation without the slightest idea that the case would turn out one of extra-uterine pregnancy. The patient is now in perfect health.

The single case in the second group is one in which the patient was for years the victim of incessant pain in the pelvis from some cause which she could not determine. Her health was breaking down, and Dr. Lycett, of Woolverhampton; under whose care she was, placed her under my care for surgical treatment. I found an abscess in the left ovary and removed it. I saw her on the 11th of last May in perfect health, three years after the operation.

The third group consists of two cases in which the uterine appendages were removed for menstrual epilepsy, that is for epilepsy centering around and seemingly caused by the menses. The first case had been an imbecile all her life. Fits began with menstruation, and gradually increased in severity until she became a furious and unmanageable maniac, requiring the constant care of two attendants.

Morbid Changes in the Ovaries in Certain Diseases.—Dr S. Kolago (St. Petersburg Inaugural Dissertation) has carefully examined the state of the ovaries in syphilis (one case), typhus (two), laryngeal diphtheria (four), acute miliary tuberculosis (one), and in acute poisoning by morphine (one case). He found the following changes.

1. In syphilis: endarteritis obliterans of the ovarian arteries, the same process as that described by Heubner for the brain vessels. 2. In typhus: granular degeneration of the parenchyma of the ovary, hyperemia of the interstitial tissue, opaque swelling of the endothelium of the vessels. 3. In diphtheria: hyperemia of tissues, granular degeneration of the ovum and membrana granulosa. 4. In acute morphia poisoning: fatty degeneration of the ovarian parenchyma and elements of the theca folliculi, intense hyperemia of tissues with numerous extravasations, and swelling of epithelium of blood-vessels, especially of capillaries. 5. In miliary tuberculosis of the lungs: diffuse infiltration of interstitial tissue with granulation elements; miliary tubercles.—*Lon. Med. Record.*

Affections of the Pleura in Diseases of the Female Reproductive Organs.—Acute pleurisy has for a long time been recognized as a complication in certain acute inflammatory affections of the female pelvic viscera. Dr. Haeckel of Pottsdam has recenty made some observations on pleuritic effusion occurring as an undoubted result of ovarian and uterine disease. In all the cases which could be accurately examined by Dr. Haeckel, the inflammation had extended into the pleura from the peritoneum, no doubt, through the commuication of the cavities of those serous membranes through the lymphatics of the diaphragm. In such cases when an

ordinary ovarian tumor exists it causes the pleural effusion, and the removal of the tumor is indicated, and where this has been done the effusion has disappeared. But if there be good reason to suppose that the tumor is malignant, then the existence of pleurisy, in which abundant carcinomatous elements can be recognized, implies that cancer has already scattered its deadly germs far and wide so that it is no longer possible to extirpate it radically. For pathological information of great importance in regard to the real or supposed malignancy of solid ovarian growths, which cause peritoneal infection and effusion, see *Trans. Path. Soc.*, vol. xxiii, p. 193, also vol. xxxi, a paper by the reporter on a case of papilloma of the Fallopian tube associated with ascites and pleuritic effusion. The character of the effusion made the case appear very unpromising, but the patient was in good health two years after the removal of the tube. Hence, provided that no graver symptoms of malignant disease exist, it is justifiable to perform an exploratory operation, at least in cases of ovarian tumor complicated by pleuritic effusion, though the effusion be rich in large vacuolated cells. In cases of ordinary effusion there can be no doubt of this.—*Lon. Med. Record.*

Effects of Pilocarpine on Serous Effusions.—Great benefit may be obtained, according to De Dominicis, from the use of pilocarpine in all serous exudations, rapid absorption taking place. He gives shortly the history of some cases of both acute and chronic peritonitis in which the administration of jaborandi or pilocarpine was followed by rapid recovery. When the effect was not obtained it was due to some special complication of the disease. In the course of these experiments in treatment the author made careful observations on the mode of action of the drug, from which he arrives at the following conclusions.

1. The systolic force of the heart, except during the stage of sweating, is increased rather than lessened, unless the nutrition of the myocardium is interfered with. 2. The effects on the sudoriparous glands endure after the repeated administration of the drug. 3. Caffein and quinine moderate its action.—*Lon. Med. Record.*

Intra-uterine Use of Iodoform.—The *Wiener Med. Blatter* of Nov. 29th has an article on the use of iodoform pencils in the intra-uterine treatment of puerperal women, as practiced in the clinic of Prof. Spaeth of Vienna. The iodoform is mixed with gum arabic and glycerine, and is moulded into bougies five or six centimetres long, each containing six grammes of pure iodoform. The uterine cavity having been washed free from blood clots and putrid fluids by a carbolised injection, the bougie is introduced entirely within the os, where it remains until it melts, when it can be replaced by another if desired. A prolonged antiseptic action is thus kept up without the irritation of introducing a syringe. The employment of

gum arabic instead of a fatty excipient guards against rancidity, and the addition of glycerine prevents the bougie from being too brittle. The unpleasant odor of the iodoform is less prominent in the solid form than in powder and the bedclothes and linen can be more easily protected from it. One or two cases are cited where great benefit resulted from this kind of treatment.—*Lon. Med. Record.*

Arrest of Threatened Mammary Abscess.—Dr. J. Braithwaite, in the *Lancet*, writes that, for many years, he has given three consecutive doses of ten grains of quinine at intervals of twelve hours, with great success, in cases of threatened mammary abscess, at the same time using the usual local application of belladonna. It is unsuitable if the bowels be confined and the tongue furred. The author states that he used the belladonna alone for many years, but, when he used the quinine in addition, there was a marked difference in the rapidity and certainty of the cure.—*London Medical Record.*

Extirpation of Benign Tumors of the Breast situated above the Nipple.—Mollière has described at the Société des Sciences Médicales de Lyon his method, by which the disadvantage of an ugly scar is avoided. He makes a transverse incision in the submammary fold, cuts his way through the subglandular tissue, and reaches the tumor between the gland and pectoral muscle. In a case shown to the members of the society no trace of the operation could be seen, as the scar was entirely hidden by the breast, which had preserved its normal shape and appearance.—*London Medical Record.*

III.—DISEASES OF CHILDREN.

The Value of Certain Isolated Symptoms in the Diagnosis of Many Diseases of Children.—Politzer (*Jarb. f. Kinderk.*, bd. xxi, h. 1 and 2) expressly disclaims any attempt at systematic arrangement of the following symptoms, to which he calls attention in his paper. Forty years of experience in the Public Institute for Sick Children at Vienna entitle him to consideration.

1. One likely to attract attention at once, is a strongly marked nasal or palatal resonance in a child's cry, which is in many cases the first symptom which should lead to a timely diagnosis of retro-pharyngeal abscess. The symptom, however, is present in other cases, for instance, in the ozæna of congenital syphilis, or in hypertrophy of the tonsils.

2. A greatly prolonged and loud sounding expiratory act, with normal inspiration and complete absence of asphyxia. Upon this symptom alone the author is willing to base a diagnosis of chorea major.

3. A sighing inspiration which is continuous, and seems to originate in the upper portion of the thorax. It has not sufficiently been considered by

the profession, bearing in mind its importance in diagnosis, prognosis and treatment. It indicates the beginning of weakness and paralysis of the heart, and sometimes its acute fatty degeneration.

4. A strongly pronounced diaphragmatic expiration, shrill and penetrating. This is spoken of as strongly contrasted to the preceding symptom, but equally valuable in diagnosticating the bronchial asthma of childhood.

5. The occurrence of pauses between the end of expiration and the succeeding inspiration. This might be taken as a symptom of croup, but in most cases the probabilities are in favor of the presence of laryngeal catarrh of a pronounced type. Generally associated with this symptom as an important condition, is the spasmodic stenosis, with its accompanying submucous edema.

6. Continuous stridulous respiration from the time of birth. This is not unfrequently seen but is often without important significance, and is supposed by the author to be due to some fault of innervation of the inhibitory fibres of the vagus.

7. A series of individual symptoms is next referred to which have reference mainly to diagnosis of diseases of the brain. The first of these is a very pronounced drowisness which is unattended by fever or any other noticeable disturbance and which lasts some time. When in children who are unusually quiet, pale and apathetic, it is very often an initial symptom of basilar meningitis. A second symptom of this series is a resistant and non-compressible anterior fontanelle which is considerably elevated above its ordinary level. It is an important and too little appreciated symptom, for it is present in cerebro-spinal and tubercular meningitis, in acute, simple and complicating hydrocephalus with tumors of the brain, and in intermeningeal apoplexy of infants. It is a noteworthy symptom too in fevers, and in various inflammatory conditions, but its especial value consists in its indicating that there is independent disease of the brain aside from any other concurrent process. The deeply depressed anterior fontanelle with which is almost always associated a sunken condition of the eyeballs, is indicative of inanition and diminution of the volume of the blood. The third symptom of this series consists in a remarkably slow movement of the eyeballs, a staring, vacant expression, and slow, infrequent moving of the lids. It is an important indication of the beginning of basilar meningitis.

8. Another series of symptoms may also be noted with advantage in respect to the crying of children. The first of these is a violent, penetrating cry lasting two or three minutes, with a most anxious expression of countenance, and coming on an hour or an hour and a half after going to bed. It is a sign of what is generally known as "night terrors," and is very apt to affect anemic and irritable children. Again, there is a cry lasting five or ten minutes, coming on periodically both by day and by night, and

may indicate dyspepsia or colic, but it is more likely to be caused by spasmodic action of the bladder, especially if it be associated with strangury. Another cry seems to due to fear whenever defecation takes place. In these cases obstinate constipation is likely present, and often fissure of the anus will be found. Another severe, prolonged cry, with restlessness of the head upon the pillow, and frequent grasping of the head, serves to indicate an otalgia or an otitis media or externa. Another variety lasts for days and weeks, is exaggerated by touching or movement of the limbs, and is associated with paroxysms of sweating and fever. The author looks upon this as an indication of acute general rachitis. Still another cry is associated with constant sleeplessness. This may be one of the phenomena of congenital syphilis; but it is more likely to proceed from errors in diet, and in still other cases it is due to the viciousness of nurses. Finally, there is a form of cry which is kept up day and night, which is associated with a history of exhausting discharges, and consequent thickening of the blood.

9. A final series of symptoms includes some which are not noticed by the parents, or not as early as is desirable for the child's interests. First is mentioned the peculiar physiognomy of congenital syphilis. Second is a decided falling together of the nostrils, with a total absence of motion in them during respiration, signifying narrowness of the nasal cavities. This indicates marked hypertrophy of the tonsils. Next, a disinclination or inability to move is associated with great weakness, and is out of proportion to the mildness of the disease. The symptoms indicate, however, an approaching spinal paralysis. Weakened power of hearing sometimes signifies limited meningitis. Depression of mental activity after certain brain disorders may be a sign of the beginning of acquired idiocy. An indication of rachitis is sometimes seen in the delayed ossification of the cranial bones. An anxious awkard posturing in walking, sitting, rising and bending, and, in those who cannot walk, a painful contracting of the facial muscles, is said to be a valuable sign of the beginning of spondylitis. A constant vomiting, lasting several weeks in childen with closed fontanelles and large cranial circumference, indicates a chronic hydrocephalus which has taken an acute form. Finally an attack of convulsions may occur which is the primary indication that the child has epilepsy. In this case it is important to know as many symptoms as possible before rendering a positive diagnosis; hence all the points in relation to the convulsion should be taken into consideration before a diagnosis of epilepsy is given.—*Arch. of Pediatrics.*

Researches Concerning Modifications in Temperature, in the Febrile Affections of Children, by Means of General Inunctions. (*Rev. mens. des Mal. de l'E.*, March, 1884.

The experience of Fourcault and others, has demonstrated that the ap-

plication of an impermeable varnish to the body of animals will lead to a reduction of temperature. Schlemann, of Hanover, has the credit of applying this fact to a therapeutic end. He was in the habit of using inunctions of lard in scarlatina, for four weeks, as well to reduce the temperature as to diminish the chances of contagion. Others have followed his lead, but no one has as yet affirmed that desquamation is prevented by this plan. The author of this paper (Colbat) has used inunctions of cerate and vaseline in young children, not only in cases of scarlatina, but also in variola, broncho-pneumonia and other febrile affections. His experience has been that the inunction is always followed by a period of calm, of repose, of comfort, and, generally, by a reduction of temperature varying from five-tenths to one degree, and, in some cases, of two degrees. The temperature, in his cases, was wont to begin to fall immediately after the inunction, and the maximum reduction was reached in an hour. Then it would slowly rise again, reaching its initial point in two or three hours. A renewal of the friction would be followed by a renewal of these phenomena. The observations were made, in most cases, upon children from one to two years of age, though in two cases the children were respectively thirteen days and three months of age, and were successfully treated by the method advocated. It is important to notice that in these cases neither the albuminura nor visceral congestions were observed. These results are certainly more favorable than have been observed after similar proceedings in animals. The author thinks it is time to abandon the theory that by varnishing the skin the blood is poisoned.—*Archives of Pediatrics.*

Symptoms of Disease of the Stomach in Children in Consequence of Inflammatory Affections of the Larynx. (*Jahrb. f. Kinderh.*, B. XXI. H. 1 and 2.

Lou remarks that simultaneous disease of the larynx and stomach has long been observed, as, for example, in the chronic catarrh of alcohol drinkers. In rare cases, also, we find diphtheria invading pharynx, larynx, trachea, esophagus and stomach simultaneously. Also, cases of laryngeal catarrh have been observed, which originated in a catarrh of the stomach, this extending to the esophagus, then to the pharynx, and finally to the larynx. Laryngeal catarrh is sometimes found associated with pyrosis, the acid discharge of the latter, with which the larynx is more or less frequently bathed, acting in a causative manner, and conversely, laryngeal catarrhs and other affections of the larynx may excite a diseased condition of the stomach. This affection of the stomach, by the extension of a disease process of the larynx, as in blenorrhœal, ulcerative, carcinomatous and gangrenous affections has been frequently observed, and the effect of the secretions in this condition in producing gastric disturbance is well known. In other cases, morbid symptoms in the stom-

ach caused by laryngeal irritation, are explained by the theory of reflex action. Sometimes an irritation of the posterior laryngeal wall produces the sensation of a foreign body in the throat. Frequent attempts to spit it out or to swallow it are made, and with these attempts more or less air is taken into the stomach. If this procedure is continued for some time, the result will be catarrh of the stomach, with a whole train of disagreeable symptoms. The author reinforces the foregoing statements by the recital of cases which are appropriate to each hypothesis. — *Archives of Pediatrics.*

Treatment of Syphilis in Infants at the Breast.—Dr. Ferdinand Link (*Prager Med. Woch.*) reports four pretty severe syphilitic cases, in children aged, respectively, ten weeks, four months, eight days, and nine weeks. All were out-door patients, whose parents belonged to the working-classes.

Their symptoms were of the usual kind—eruptions on different parts, ulcers and rhagades of the nose and lips, troublesome coryza, etc. Two of the cases, moreover, presented serious complications, in the shape of intestinal catarrh and stomatitis. The only internal remedy employed was iodide of potassium, two grains of which were given to each of the mothers daily, without interruption, during periods varying respectively from fourteen days to eight weeks.

In every instance a complete cure was indisputably effected—either by the time the medicine was discontinued, or very shortly afterwards—no traces of the disease being left beyond a more or less pronounced discoloration of the affected integument.

The apprehended effect of the iodide in lessening the secretion of milk was not perceptible in either of the four cases. If any slight diminution actually took place, it certainly did not interfere with the success of the treatment.—*Journal of Cutan. and Ven. Diseases.*

Concerning Pains in the Head during the Growing Period.—It is a matter of common occurence that young people of both sexes are compelled to interrupt their attendance of school on account of a cephalopathy which the authors terms *cephalalgia of the growing peroid.* It commonly occurs between the ages of twelve and eighteen years, is accompanied by dizziness and *malaise* and is excited by any intellectual effort, sometimes even by the reading of an entertaining book. Its location is mainly in the temples but it also involves the hairy scalp from the orbits to the mastoid processes, or even the entire head. The patient is at times irritable, easily excited, or inclined to sadness and to spells of weeping. They are wont to complain that they cannot do as their comrades do. It is a mistaken idea to treat such persons as malingerers, and to attempt compulsory means which cannot possibly yield good results. Together with the

phenomena mentioned are also to be seen anomalies of refraction and accommodation, as myopia, hypermetropia and astigmatism, and, in fact, diseases of the eyes in general. Proper glasses or other appropriate treatment will often lead to a rapid recovery but such is not always the case. Additional means of treatment should be, complete cessation from intellectual effort, change of air and appropriate medication.—(*Rev. mens. des. Mal. de l' E, March* 1883.) *Archives of Pediatrics.*

Extirpation of the Tonsils.—(Despres, *Arch. f. Kinderh.*, B.V.H. 3 and 4.)—The cause of hypertrophied tonsils, which are met with so frequently in the period of childhood, is referred by the author to the various diatheses. He also remarks the concurrence of hypertrophied tonsils with diarrhœa during the period of weaning. The harmful effects of this condition upon the respiratory function have suggested scarification, cauterization, local medication and various other means of treatment, all of which are usually inefficient. After these means have been tried, the author favors extirpation in children more than seven years of age, in which the hypertrophy is stationary. In simple or croupous inflammatory conditions the operation is not indicated, neither is it indicated in syphilis, as long as any mucous patches remain upon the organs. The operation which is recommended is that of Chassaignac, both sides being cut at one stroke. It is not necessary to remove the entire organ, an operation which might be followed by serious hemorrhage. After the removal of the hypertrophied tissue, a gargle of alum-water is recommended. Fahnenstock's instrument is thought to be the most desirable one. The author has had no trouble from hemorrhage; if, however, it should be profuse, he recommends applications of ice, or of a solution of the sesqui-chloride of iron. The patient should be instructed to breathe through the nose after the tonsils have been removed.—*Archives of Pediatrics.*

Bibliography.

Female Hygiene and Female Diseases. By J. K. SHIRK, M.D.

This is a small work and well written for its purpose, which is "the instruction of the laity."

The general hygienic directions are good and the advice about dress excellent as far as it goes.

We would differ with the author in two points however. It is not wise, we think, to recommend cold hip-baths and cold injections in a book for general reading, as great judgment is required in their use if used at all. We have known some cases where severe, acute pelvic inflammations have been set up by following such directions on their own responsibility.

The other point is with reference to periodical rest. He says, in italics, "Every civilized woman should rest in the recumbent posture during a good part of every menstrual period." What an upsetting of the world's work it would cause if that advice had to be followed by all the servants in the land, and in mills and factories where several hundred women are employed. If that is true hygiene all nurse girls, cooks and the thousands of clerks should be treated with ordinary humanity. In Dr. Mary Putnam Jacobi's prize essay on this subject sufficient evidence is given to prove that periodical rest is not only not necessary but not advantageous to the normal woman. Of course there are many women weak in these parts and the advice is good for them. Fortunately, however, all do not need it, any more than all the world need glasses because some are near-sighted.

Elementary Principles of Electro-Therapeutics. For the use of Physicians and Students, with 135 Illustrations. Prepared by C. M. HAYNES, M.D. Published by the McIntosh Galvanic and Faradic Battery Co., Chicago, Ills. Price, $2.00.

This manual of 426 pages is designed more particularly for the use of students and practitioners who enter upon the study of electricity for the first time. It discusses in a clear and concise manner the elementary principles of Magnetism, Franklinism, Galvanism and Faradism. The explanations are free from technicalities and will therefore prove more attractive and serviceable to a beginner than an elaborate treatise replete with mathematical deductions and scientific theories. The definitions are, for the most part, clear and easily understood, although in some instances clearness is sacrificed at the expense of conciseness. This latter defect is, however, again somewhat remedied by the addition of a complete vocabulary of electrical language, which contains all the terms employed at the present time in this science and defined according to the revision adopted by the Electrical Congress which assembled in Paris in 1881. This vocabulary is a valuable addition, as it facilitates reference to such technical phrases as are interspersed throughout the work and which may escape the memory in the course of further study. Although prepared for and published by the McIntosh Galvanic and Faradic Co. for the purpose of bringing their instruments and appliances more prominently before the medical public, as the illustrations will show, this book is not a mere advertising medium, because the subject of electricity itself is handled in an impartial and scientific manner. It would, however, be more properly styled "Elementary Principles of Medical Electricity," as the subject of electro-*therapeutics* proper occupies really less than one-half of the space of the book, and this part is perhaps the least satisfactory because the directions are too concise. However, electricity, as applied to medicine, is not yet fully understood and any effort to make

its study more general and legitimizing its application in therapeutics by taking it out of the hands of charlatans who style themselves "electricians" and placing it in the hands of the regular practitioner ought to be encouraged.

To all, then, who desire a plain and ready reference work on Medical Electricity and especially students, "who wish to commence at the beginning and master the foundation principles of electrical science before attempting to become acquainted with the theories and elaborate investigations of the founders of this science" this work is to be recommended. To the possessors of the various McIntosh electrical instruments and appliances this manual is almost a necessity, because, besides the general principles of electricity, it contains an accurate description of all of the various instruments made by this firm and gives full directions for taking proper care of them. The typography, illustrations, and general workmanship of the book are all excellent. W. H. W

Gossip.

Ohio State Medical Society. — The thirty-ninth annual meeting of the Ohio State Medical Society will be held at Columbus, Ohio, June 10th, 11th and 12th, 1884.

Order of Business. — The sessions of the Society will be held at Lyndon Hall, corner of Long and Fourth streets. First session at 2:00 P.M., June 10.

The order of business for each session will be:

1. Reading of minutes.
2. Report of Committee of Arrangements. (First session only.)
3. President's Address. (Afternoon of second day.)
4. Election of officers. (Afternoon of second day.)
5. Selection of a place for the next meeting. (Afternoon of second day.)
6. Business which requires early consideration.
7. Annual Reports (first session only) of:

a. Treasurer and Librarian. T. W. Jones.

b. Secretary. G. A. Collamore.

8. Reports of Standing Committees:

a. Committee on Finance.

b. Committee on Ethics. W. J. Scott, Chairman.

c. Committee on Publication. J. F. Baldwin, Chairman.

d. Committee on Legislation. D. N. Kinsman, Chairman.

e. Committee on Admissions.

9. Reports from Delegates to the American Medical Association and other Societies.

10. Written Communications on medical subjects:

a. "Report on Tuberculosis." D. N. Kinsman, M.D., Columbus.

b. "Report on Drinking-Water." W. J. Scott, M.D., Cleveland.

c. "The Necessity for Radical Operation in Empyemia." S. F. Forbes, M.D., Toledo.

d. "Diseases of the Skin due to Derangements of the Nervous System." W. D. Corlet, M.D., Cleveland.

e. "Changes of Disease Types in Central Ohio." W. Morrow Beach, M.D., London.

f. "The Pupils as a Factor in Diagnosis and Etiology." H. P. Allen, M.D., Columbus.

g. "Diagnosis of Continued Fever." A. E. Foltz, M.D., Akron.

h. "Irritation of the Prostate." R. Harvey Reed, M.D., Mansfield.

i. "Pharmaceutical Preparations." T. H. Phillips, M.D., Canton.

k. "The Races." R. Frailey Wark, M.D., Ontario.

l. "The Treatment of Varicose Veins." J. W. Craig, M.D.. Mansfield.

m. "The Use of Hot Water in the Management of Punctured, Lacerated and Contused Wounds." H. W. Sykes, M.D., Plymouth.

n. "Nervous Disorders." D. A. Morse, M.D., Oxford.

o. "Report on Milk-Sickness." W. Morrow Beach, M.D., London.

x. Volunteer Papers.

11. Oral Communications.

12. New Business.

13. Unfinished and Miscellaneous Business.

14. Adjournment.

Special Notice. — The following Resolution will be offered during the session, by H. J. Sharp, M.D., of London, who will support the same by a written paper:

Resolved, That the public good and the higher interests of the medical profession would be promoted by the establishment of a State Board of Medical Examiners; that such Board shall be independent of all medical schools, and be empowered to examine and pass upon the moral fitness and literary and medical attainments of all applicants for admission to the practice of medicine, and to grant license to practice medicine in the State of Ohio to such only as shall have passed a satisfactory examination before said Board; that medical schools shall continue their functions of teaching and conferring degrees of M.D. only, with no powers whatever to grant licenses to their graduates, admitting them to the practice of medicine.

Hotels:—Neil House, $3.00 per day; American House, Park Hotel and U. S. Hotel, $2.00 per day.

Railroads: — The following Railroads will *return* members who have paid full fare to Columbus, at *one cent per mile*, on presentation of certificate, to be obtained of the Secretary *at the meeting*, tickets good to June 14th, viz.: Columbus. Hocking Valley & Toledo; Ohio Central; C. C. C. & I.; I. B. & W.; C. A. & C.; Scioto Valley.

The following railroads will sell round-trip tickets at *two cents per mile, each way* on presentation to local ticket agents of proper credentials, which must be obtained before leaving home; the Secretary will furnish them on application, viz.: Baltimore & Ohio, P. C. & St. L.

C. P. Landon, *Pres.*, G. A. Collamore, *Sec'y*,
M. F. Lee, *Ass't Sec'y*,

Standing Committees. — (The member first named is elected for five years, the second for four years, etc.)

Finance:—(Vacancy), Davis Halderman, Geo. Mitchell, S. S. Thorn, R. P. Evans.

Ethics:—W. J. Scott, John A. Murphy, W. W. Jones, H. Culbertson, (Vacancy).

Publication:—J. F. Baldwin, J. C. Culbertson, J. H. Lowman, W. H. H. Nash, Jos. Waggoner (and the President and Secretary of the Society, *ex-officio*).

Medical Legislation:—D. N. Kinsman, Enoch Pierce, Toland Jones, H. J. Donahoe, A. H. Brundage.

Admissions and Medical Societies: — (Vacancy), J. B. Thompson, J. W. Beach, P. P. Pomerine, N. H. Sidwell.

Committee of Arrangements: — J. F. Baldwin, H. N. Landis, M. F. Lee, R. Wirth, P. V. Beverly.

Report on Beef Peptonoids by Dr. Stutzer, Directer of the Imperial Agricultural Chemical Laboratory for Rhenish Prussia, Bonn, Germany.—I have carefully analyzed Beef Peptonoids with the following results (dry analysis), viz.:

Albumenoids (nitrogenous substances),	70.29
Fat,	11.45
Dextrine (milk sugar,	10.75
Starch,	1.35
Cellulose,	.26
Salt,	5.90

On examination the albumenoids showed as follows viz.:

97 per cent. consisted of albumen and peptone easy of digestion,
1 per cent. creatine,
2 per cent. substances difficult of digestion,

proving the nitrogeons substances in the preparation to be readily assimilated.

The exceptionally high nutritive value of this preparation is due to the great quantity of digestible albumenoids present. If compared with other foods in the market, the result would be as follows:—

Beef Peptonoids,	nitrogenous	nutritive	matter,	70.29 per cent.
Caviar,	"	"	"	26.00
Beef,	"	"	"	20.00
Fowl,	"	"	"	18.00
Mutton,	"	"	"	18.00
Eggs,	"	"	"	13.00
Bread,	"	"	"	8.00
Milk,	"	"	"	4.00
Liebig's Ex. Meat,	"	"	"	5.00
Potatoes,	"	"	"	1.00

The flavor and odor of the preparation are exceedingly pleasant, and surpass any other preparation of meat with which I am acquainted. The results of my analyses are such as to enable me to pronounce Beef Peptonoids to be a *most valuable* and *easily digested* nitrogenous food for invalids and convalescents. I extend to it my fullest endorsement.

BONN, *March* 19, 1884. DR. STUTZER.